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ABSTRACT

Results of a lower division program evaluation questionnaire administered to freshmen and sophomores at the University of California at Berkeley are presented. Major areas of the survey were: departmental course evaluations; advising; faculty and their teaching; curriculum, courses, and content; competition, testing, grading, and student workload and performance; student participation in university governance; and overall satisfaction and the contributions of the university. Characteristics of the student population and methods of analysis are described and recommendations are offered. A sample questionnaire is appended. (SW)

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LOWER DIVISION EDUCATION AT BERKELEY: THE STUDENTS' ASSESSMENT

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HE 010 791

INTRODUCTION

As the Coordinator of the ASUC Academic Affairs Office's Academic Review Unit (ARU), it has been my privilege and honor to collect, compile and interpret data from students, to evaluate lower division (freshperson-sophomore) education at the University of California, Berkeley. I believe that student evaluations of an entire educational program, and not just of the teaching, are generally valid statements in and of themselves, and one of the best indicators of the success, problems and needs of a university or college. Moreover, even if the validity of students' assessments are more limited than I believe, they are nevertheless an essential element to include in the University's program review/evaluation process, even though faculty and administrative supporters of the status quo may resent, and be politically biased against such input.

Although I have in many ways drawn upon an extensive ASUC and student support system in developing this work, the responsibility for the compilation and the interpretations in this report is my own. The reader is welcome, however, to draw his or her own interpretations and conclusions.

Size of Print. I also wish to extend my apologies for the relatively small size of print in the body of the report. Limitations on funding, plus the need to circulate copies of this report to a large number of students, as well as to a rather diffuse group of faculty and administrators with responsibilities of various kinds for lower division education, required that the number of pages be kept to as few as a reasonably complete report would allow.

ACKNOWLEDGEMENTS

This review would not have been possible without the support of the many students who responded to the Academic Review Unit's "Lower Division Program Evaluation Questionnaire." Six hundred rather long questionnaires were sent out to students in all five Colleges at Berkeley. Fourteen students could not be reached, and 356 surveys were returned. If the reader is interested in why the students responded (or to what), the questionnaire, and its cover letters, are presented as Appendix A.

The work of the two ARU research assistants, Andy Hanami and Anne Hafner, and the support of the ASUC (Academic Affairs Vice President and other Executive Officers, ASUC Senate, and other permanent and temporary staff) were vital to the successful completion of this medium-scale survey evaluation.

Funding. Funding for this work is provided by the Offices of the Vice Chancellor and the Associate Vice Chancellor for Academic Development, after consultation with the faculty's Council on Educational Development, with money provided by the State Legislature, initially on request of the U.C. Student Lobby (Student Body Presidents' Council), for improvement, innovation, and evaluation of undergraduate education.

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SUMMARY OF FINDINGS

Departmental Course Evaluations [pages 12-13]

Average ratings of overall satisfaction with coursework in individual departments showed considerable variation, but only a modest number of departments, generally those which are not called upon to handle the largest numbers of lower division students, received reasonably high ratings (e.g., 5.0 or higher on a 7-point scale). In a few cases, the number of students dissatisfied exceeded the number satisfied.

Advising [pages 14-15]

Very few of the elements of advising were judged as satisfactory. A large plurality* of the respondents thought that advising concerning choice of professors and courses is not fully adequate, and the students overwhelmingly recommended occasional use by faculty of the ASUC Primer questionnaire, so that students will have access to evaluations of faculty teaching. The sufficiency of information about career opportunities, and on graduate and professional schools, was also deemed inadequate by large majorities. A vast majority of the students felt it would be valuable to have a faculty advisor, and that faculty advice was important to them.

Faculty and Their Teaching [pages 15-20]

A majority of respondents agreed that teaching at Berkeley is challenging and of high quality, but the fact that only one student in eight "Strongly Agreed" attenuated these results. A plurality disagreed that feedback on student work was thorough enough.

Only a plurality of students who have needed extra instruction or explanation felt that help or a referral was easy to obtain, but a large majority felt encouraged or (at least) free to go to faculty office hours.

Students were evenly divided about whether faculty at UCB seem really interested in or concerned about lower division students.

A plurality of respondents was dissatisfied with the level of contact with faculty that they had encountered at Berkeley. At least one-fifth of the respondents, and over a quarter of the freshpersons, were entirely anonymous to the faculty (i.e., were not known by name or sight to any professor). Apart from study-list advising by faculty (where it exists), nearly a third of the respondents had had no out-of-class discussions with a professor during the entire Winter Quarter of 1978.

Sixty percent of the Teaching Assistants were seen as knowledgeable and well-prepared, and 50% were seen as effective teachers in leading class discussions and/or laboratory sections.

*See page 11 for a full explanation of the use of modifiers such as "a plurality," "a vast majority," etc. Statements using this language compare the proportion of "agree" responses (or "high" ratings, etc.) with the proportion of "disagree" responses, but varying proportions of the responses also fall into the middle response category (e.g., "In Between"). Students who mark "No Information or Not Applicable" or "Don't Know," or who left an item blank, are excluded from the calculation of the percentages (and statements).

A majority of the students recognized a major contribution of faculty and coursework to the increases in their ability to analyze ideas and information critically, and pluralities gave much or very much credit to the University for improvements in research skills and their ability to formulate and express ideas in writing. Significant gains in oral expression skills due to faculty and coursework were in a minority among the respondents, as were increases in students' clarity about academic and career goals.

An overwhelming majority of the respondents would welcome greater use of permanent (security-of-employment) Lecturers, who are promoted almost entirely on their teaching ability, to improve teaching in some of the largest, basic, required courses. The Associates Teaching Program proposed as part of the 1978-79 budget was also welcomed by an overwhelming majority.

A slim majority and a plurality, respectively, felt that there were too few women and ethnic minority faculty members at Berkeley.

Curriculum, Courses, Content [pages 20-24]

In general, courses taken to fulfill breadth requirements were seen by a majority of respondents as being of real benefit to them, with foreign language courses, courses to fulfill the American History requirement, and Comparative Literature's reading and composition sequence receiving the highest specific ratings. The total number of required courses was seen as acceptable to a plurality of students. The addition of the new math requirement in L & S was supported by a slim majority, while the additional quarter of language requirement and the change in distribution requirements were opposed by larger majorities.

Coursework was regarded as interesting and challenging by a large majority of the respondents. But the average lower division student was "turned off," by a first or subsequent course, to every fifth department or subject matter by the classes they had taken at Berkeley.

A plurality of students agreed (few Strongly so) that the large classes they had taken provided adequate learning opportunities, but a plurality also disagreed that they had had enough small-sized classes.

There were modest levels of agreement by the respondents that faculty show enough concern about social issues when teaching their classes (plurality), that nondominant schools of thought are adequately represented in available courses (slim majority), that coursework in different departments relates well enough to each other, enabling the student to get a broad, interdisciplinary perspective (plurality), and that lab or technical courses provided enough experience in real problem-solving (plurality). In all these cases, minorities of 20-30% disagreed, and goodly proportions were of mixed views (or had no opinion at all).

Competition, Testing, Grading, and Student Workload and Performance [pages 24-29]

A large majority of the respondents felt that competition at UCB impaired other parts of their education and personal growth. Roughly equal proportions agreed and disagreed that they study and learn best in an environment with competition at a level such as they face at Berkeley. Student views were also equally divided as to whether they actually had trouble coping with the educational system at Berkeley.

A large plurality of the respondents felt that faculty expectations were not made clear at the outset of courses. A modest plurality agreed (few Strongly so) that tests here measured their knowledge fairly accurately in most of their

courses. Thorough exposure to concepts was seen by a vast majority as being the real value in course and lab work, and as being more important than soon-to-be-forgotten details, but the modal response to an item about whether tests overemphasize details was "In Between" (a small plurality disagreed, few Strongly).

A vast majority agreed that grading was rigorous and that it is hard to get an "A" grade. A large majority also felt that students have to do a lot of work for the number of units awarded (i.e., if they want to get an "A," we surmise). Although some of the time spent studying outside of the classroom may have gone unaccounted in students' reports, the number of hours of study per unit of credit had a fairly wide range between and within the five Colleges, reaching questionably low levels in some instances.*

The average GPA of the respondents for courses completed at Berkeley (including some upper division work) was a shade above 3.0. A majority agreed (only one-in-ten Strongly so) that they would remember a lot of what they had learned in Berkeley classes for a long time to come.

Student Participation in University Governance [page 29-31]

A plurality of the respondents did not trust faculty to take student needs and views into account in their academic decision-making and, in any case, an overwhelming majority agreed that students should have the right to participate in all decision-making that affects them or future students' education or welfare. A vast majority also agreed that students should be represented on the faculty Senate committee that evaluates individual faculty for promotion/tenure.

Where society may be significantly affected, a very large majority of the respondents agreed that faculty should include social impact statements in their research write-ups. A large majority opposed secret ties and information-sharing with intelligence agencies such as the CIA. There was an equal division of sentiment about whether faculty should reveal course content-related consulting activities to students enrolled in classes.

A very large majority opposed barring already-enrolled students from the major of their choice. Views were evenly divided as to whether the University should try vigorously to enroll the proportion of Blacks, Chicanos, and Native Americans that are found in California's high school graduating classes.

A majority agreed the University should sell its stock in companies that invest in South Africa. A plurality felt that the University really should not be managing nuclear weapons laboratories or engaging in secret research therein.

*However, since hours of study per unit of credit (in Winter Quarter 1978) had a very low empirical association with GPA at UCB (after an average of about four completed quarters), the entire appropriateness of expectations concerning hours of study (outside of class) per unit of credit is called into question--unless faculty are willing to shift to mastery learning or true workload standards (i.e., rather than relative-competitive grading). Although there has been some slippage since the heights reached in the later 1960s, the generally increased levels of autonomy, social consciousness, and interpersonal maturity among students, which in a fair number of cases equals or surpasses those of many faculty, has enabled the "average" student to begin work at a much higher level of understanding in social science and humanities fields than was true prior to about 1964. However, raising standards might crush those (otherwise able) students who have not (yet) attained the personal growth that enables quicker comprehension in these fields, and may also require considerable time spent by faculty to rejuvenate their teaching and course offerings (unless they simply increase makework and test for more details). See the body of the report for more information on this topic.

A large majority preferred that Congress provide financial aid on the basis of need rather than through a general tax-credit mechanism.

Overall Satisfaction and the Contributions of UCB [pages 32-37]

Overall satisfaction with the formal aspects of the educational process was on the high side for 60%, and on the low side for 18%. Satisfaction with the total experience while at college ran 69%, dissatisfaction 16%.

In terms of the various goals of a college education, a slim majority (51%) saw Berkeley's contribution to training in critical thinking and analysis as high. Large pluralities of the lower division respondents also saw a high contribution to learning a subject matter (48%), and to preparation for graduate or professional school (49%).

A 40% plurality even saw Berkeley's contribution to career preparation as high, rather than low (20%). But the contribution to "a broad, general, humanistic or person-centered education" was seen as high by only three-in-ten, and as low by the same proportion. The response from L & S students fell very near the overall average. The University's contribution to "social responsibility or developing skills useful in the community" was seen as low by a plurality (47%), with high ratings at 20%.

The largest differentials between students' ratings of the "Importance" of these goals, as contrasted with "Berkeley's Contribution," were on the items concerning social responsibility, a broadly humanistic education, and career preparation.

Despite the variety of shortcomings--and because there are a lot of solid but rarely outstanding plusses in lower division education at Berkeley--the formal aspects of the educational process placed a quite respectable second as an influence on students' "overall growth and learning." Peers ran slightly ahead in importance as an influence. Three other possible sources of influence were also fairly important (students' own efforts at self- discovery, development; their own intellectual interests/pursuits; and other commitments and involvements). Less important now than in the 1960s were local political and cultural activities (combined) and the social, political, economic and broader human situation (from the State to the international spheres).

On two other important variables, faculty and coursework were seen to have had much influence on students' self- awareness, understanding, and knowledge by 38%, and little influence by 31%. The influence of faculty and coursework on students' motivation to pursue their own intellectual interests, apart from the extrinsic rewards and structures of the educational process here, was not very heartening--40% said there was little influence, 35% said much.

RECOMMENDATIONS

Most of the rationale leading to the recommendations which follow is contained in the body of the report. However, the page numbers appended to each recommendation refer the reader to the portions of the text from which the recommendations evolve. Again, you are welcome to draw your own conclusions, but all interpreters should do justice to the results (or have reasons why the results have been set aside).

Since several of the recommendations draw upon the broadest findings of this program evaluation, reference will be made here only once to some of the key findings that constitute background from which the recommendations emerge. Some of the most salient findings include: the evaluations of departmental coursework (page 13), of class size and the quality of the learning opportunities in large classes (page 23), of various breadth requirements (pages 20-21), and of coursework more generally (page 23); the evaluations of faculty teaching (page 15), of T.A.s (page 17), and of the adequacy of feedback to students (page 16); students' expectations regarding retention of knowledge learned in classes (page 28); the state of advising (pages 14-15); the extent of and satisfaction with faculty contact (pages 16-17); the effects of competition and the educational system/climate (page 25); the philosophy and design of many tests and of grading (pages 25-28); the effects of the instructional process on students' own intellectual motivation (pages 36-37); and Berkeley's contribution to "a broad, general, humanistic or person-centered education" as well as to "social responsibility and developing skills useful in the community" (pages 33-34).

RECOMMENDATION #1: To Strengthen Teaching

A. Weight/Accreditation of Teaching in Faculty Promotion

1. To help ensure that teaching ability/performance is given sufficient weight* in faculty advancement, the University should include students on the committee which evaluates faculty members for promotion and tenure (page 29). In particular, one graduate and one undergraduate student, appointed jointly by the ASUC Academic Affairs Vice President and the Graduate Assembly, should be accepted as a member by the Berkeley

*The University's official "Instructions to Review and Appraisal Committees" implicitly indicate that teaching is to be weighted equally with research in faculty promotions (and former President Hitch, in whose term the current instructions were promulgated, has admitted that the intent is that they be equal). However, a recent study by the UCB faculty Senate's Special Committee on Salary Equity showed that 75-90% of the salary levels of white male professors (i.e., about 90+% of the regular faculty here) can be predicted without reference to their teaching ability (or professional competence and activity, or public or University service). While number of publications or equivalent (books, articles, exhibits) are included in the prediction equation, age, time of award of highest degree, and hiring date at U.C. are surrogates for all other criteria for faculty advancement. [See Minutes of the Representative Assembly, June 5, 1978.] The October 17, 1977 Report of the Committee on Budget and Interdepartmental Relations [in the Notice of Meeting of the Berkeley Division] also points to a number of weakness in the collection and report of teaching evaluation data.

Division of the Academic Senate's Committee on Budget and Interdepartmental Relations (the campuswide faculty promotion committee).* And/or

2. The Berkeley Administration should seek student advice on faculty promotion cases, immediately prior to the final decisions by the Chancellor('s Office), through special consultative arrangements, to accomplish most of the goals indicated in A.1 and its footnotes.

B. Teaching Assistant Training

The University Administration and the departments should continue to improve upon the relatively new programs for the training of teaching assistants, and the Graduate Dean should invite the ASUC Academic Affairs Vice President to appoint a representative to all committees dealing with T.A.-training.

C. Associates Teaching Program

Experiments in new course content and the provision of more small, lower division classes (page 23), such as would be enabled by the development of an Associates Teaching Program, should be undertaken by the Berkeley campus (page 20).**

D. Resources Devoted to Lower Division Teaching

1. The University should hire a few security-of-employment (permanent) Lecturers, whose promotion is based almost entirely on their teaching ability, to improve teaching in some of the largest, basic, required courses on the campus (page 20). And/or

2. In view of the inadequacy of faculty contact with lower division students (pages 16-17), the University should obtain the State's agreement to restore funding reductions ("salary savings" targets) to 1977-78 levels,*** and the University should consider half of any amount recouped to be new money to strengthen undergraduate teaching, including by means of recommendations C (Associates Teaching Program) and D.1 (S.O.E. Lecturers), and academic support for affirmative action-related needs. And/or

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*Initially at least (if only because of Senate regulations), the student views should be tallied separately and, in view of the extensive workload, the student representatives may want to confine their attention to promotions, including to tenure, rather than merit increases. Procedures, including those necessary to maintain confidentiality, have been worked out at U.C. Irvine, where students already serve on the academic personnel committee, and can be modified as necessary. The basic purposes of the student representatives are to ensure that faculty members on the "Budget Committee" remember to give adequate credit to good teaching or that the Administration is at least cognizant of student views on each candidate's teaching, to assure students of the fairness of the promotion process, and to monitor the adequacy of teaching-related evaluation data, and its interpretation and weighting.

**I.e., even if it sets up an innovative competition between departments over a few, centrally-administered, Council on Educational Development-supervised Associate positions which have been recaptured from the departments with least severe needs.

***See next page.

3. In view of the inadequacy of faculty contact with lower division students (pages 16-17), the University should increase the average classroom contact hours and overall teaching load expected of faculty members, ensuring that some of the increase goes to lower division students.*

RECOMMENDATION #2: To Strengthen Advising

A. Published Teaching Evaluations

In view of the weaknesses in course- and professor-selection advising (page 14), the University should adopt a teaching evaluation system in which all faculty are evaluated at least occasionally by Primer (the ASUC Course Evaluation Guide), so that students

***[From previous page.] Because of the decline in the average number of units taken by students (partly because of the increased number of part-time students), the University should take on a larger total number of "headcount" students. And, in recognition of the increased out-of-class teaching, advising, and student contact workload associated with a higher total number of students, the State should credit the University for the additional teaching-related workload that results (e.g., through its funding formulae). [This could be accomplished, for example, by multiplying the Universitywide FTE student enrollment figure by (1.0 + 1/2(Percent of students who are half-time or less)).] The State needs high quality (graduate) and high-reputation (undergraduate) part-time programs, and so do many potential students from underserved groups, but the State imposes a disincentive if it will not allow the University to keep its faculty (regular and temporary) at 1977-78 levels by the addition of part-time students, recruitment and provision for affirmative action clientele needs, etc. Indeed, University pursuit of such policies might well be a sensible public condition for restoring full funding levels.

*Based on the Academic Review Unit's close analysis of the changes in faculty teaching workload over the last two decades (1960, 1968, 1972-75, 1977), increases in faculty contact hours could well be warranted in any case. We greatly prefer Recommendation D.1, however, in order to minimize disruption of existing faculty workload patterns, and recommend D.3 only as a last resort, i.e., in the absence of other steps taken to improve lower (and upper) division education--including implementation of Recommendation #1.A (and #1.D.1).

In the tight budgetary year(s) ahead, there are several variables in the fiscal equation. They include: faculty salaries (some hefty raise is more or less due); faculty classroom contact hours; sufficient funding for the large number of temporary teaching staff who carry much of the instructional workload; and increased "tuition" for students. Hence, with a rough ceiling on the total budgetary increase to be given the University by the State, something may have to "give," if quality is to be maintained. [Note: Negotiations concerning points made in the footnote to #1.D.2 should be apart from the general ceiling for the University's budget.] Personally, I believe that students should be willing to accept some increase in fees (despite various dire consequences), but not on a regularly inflated basis, if the faculty and administration, at Berkeley and Systemwide, will effectively incorporate student input in all University decision-making of any importance to students. Given the research-oriented priorities of the institution, effective student representation may well be absolutely necessary if the quality of instruction is to be maintained (let alone improved), especially at the undergraduate level.

will have access to publicly-available evaluations of faculty teaching (page 14).*

B. Advising Information

The University, with the support of its faculty (as necessary), should develop and disseminate information for lower division students concerning career opportunities associated with various subject matters and with graduate and professional school programs (page 15).

C. Faculty Advising

The University should expect from each faculty member that a certain proportion of time will be devoted to the advising of students at all three levels, including lower division (page 15).

RECOMMENDATION #3: To Strengthen the Quality of Education and Its Climate

In view of the extensively counterproductive effects on students of testing and grading based on the comparative performance between students (pages 24-29, 36-37), the faculty should seek to base tests and grades on mastery learning and workload standards, such that the "average" Berkeley student, who comes from above the top eighth of his/her high school class, can expect to earn an "A" grade for approximately three hours of work per week per unit of credit, including class and lab times, language labs, writing papers, etc.**

RECOMMENDATION #4: To Strengthen Student Participation in University Governance

Since students should have the right to participate in all University decision-making that affects them or future students' education or welfare (page 29), mechanisms should be planfully developed to enable such student participation.***

RECOMMENDATION #5: To Strengthen Courses, Content, Curricula

Apart from the partial reinvigoration of coursework that will be engendered by Recommendations #1, #2, #6, and, to a lesser extent, #3 and #4, the coverage of social responsibility-related aspects of coursework (page 33, 23-24), and the provisions for a broadly humanistic education (page 33) seem to need more attention from the faculty, particularly in L & S. Faculty members should make a greater effort to see that the values and assumptions which undergird their and others' interpretations of information are known to the students in their classes, that introductory courses are adapted (or are otherwise available) to the broader and more general needs of nonmajors, and that the implications of coursework for self and society are fully explored.

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*To save money by consolidation of efforts, ensure that student evaluations of teaching are collected regularly for all faculty, and enable the publication of evaluations for all regular faculty, teaching-evaluation data collection should be centralized under the auspices of T.I.E.S. (Teaching Innovation and Evaluation Services), supervised by the Divisional Committee on Teaching, and use a questionnaire primarily of student design. Teaching evaluation data thus collected should be given to the faculty member concerned and his/her department/promotion authority, to Primer, and be filed at T.I.E.S. (on call to the Budget Committee).

**See footnote in Summary of Findings (page vii) and discussion in text.

***The recommendations of the U.C. Systemwide Task Force on Student Participation in the Governance of the University of California (1977) should be followed.

A. Breadth Requirements in L & S

Although we believe there is a strong rationale for encouraging breadth in course-taking among the (lower division) student body, and although most respondents appreciated the value of the courses they took to fulfill breadth requirements (pages 20-21), there are also questions to be raised about requirements that are imposed on every student. Requirements also undermine the incentive for departments to improve (reinvigorate) their lower division offerings, because students can no longer (as easily) "vote with their feet."

Moreover, any specific requirements proposed should be evaluated carefully. Key questions are whether the proposed requirements are actually "universal" in their value to students, and whether they are of such importance and priority that they should be required of all (especially since people also tend not to remember what they are not motivated to learn). Of the three major changes in the L & S breadth requirements, a majority of the L & S respondents support one (one course in quantitative methods, or equivalent), and clearly oppose two others (page 22). The students opposed the new requirement for a third quarter of language. They also thought that the new, more specific distribution requirements, at least in their current manifestation, were unnecessary or inappropriate. Since one would hope for strong (and not just narrow majoritarian) support for any requirement to be imposed on the diversity of students enrolled in L & S, now or in the future, and since the requirements will also affect the self-selection of prospective applicants to UCB from high schools as well as community (et al.) colleges, the two changes in L & S requirements that are opposed by a majority of students should be rescinded. (New requirements may also increase the drop-out rate--see "Number of Required Courses," page 21.)

The recision of two of the three new L & S requirements should not preclude consideration of other ways to reinvigorate the L & S contribution to a broadly humanistic education, or social responsibility (see pages 33-34). As it stands, however, this reinvigoration occurs, if at all, as a by-product of the current change, as departments respond (or don't) to more complaints from students who have been coerced by requirements into enrolling in various courses, some of which will not work out well as breadth offerings. Indeed, the current "Turn-Off Rate" in L & S ("turn-offs" to departments or, worse yet, to entire subject matters), as a result of taking a first or subsequent class in a department, is already 23.2% (page 23), and 84% of the L & S respondents have been turned-off to at least one department or subject matter--even in the absence of the new requirements.

One entirely different alternative has also been proposed (footnote, page 22), involving two degrees, one a Bachelor of Liberal Arts (with increased breadth requirements and, preferably, a serious L & S effort to develop a viable design and appropriate courses/options), and the other the current B.A. (perhaps with slightly fewer requirements).*

*See next page for footnote.

RECOMMENDATION #6: To Strengthen Faculty Affirmative Action

While the shortage of women and ethnic minority faculty was less keenly felt by the lower division respondents, perhaps because of the many temporary teaching staff they encounter, than by the upper division majors surveyed last year,** shortages are perceived by a majority and a plurality, respectively, and particularly by women and ethnic minority students (pages 19-20). There are a number of ways (not detailed here) for departments to increase their number of women and ethnic minority faculty members (when they really wish to do so). In the absence of a record of continuing improvement, departments with the greatest underutilization of qualified women and minority faculty should be required to develop priorities of expertise for future faculty hires which will maximize their prospects for finding qualified women and minority faculty. Moreover, in the worst situations, departures of Assistant Professors should not result automatically in a renewal of the recruitment authorization; rather, the expertise sought should be revamped (when necessary) to increase the probability of finding a woman or minority candidate who is most qualified.

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*[From previous page.] One educationally defensible change that would increase choices for students would be to broaden the campuswide "American Institutions" requirement to "Institutions and Cultures"—fulfilled by the currently-approved coursework and also many courses in the four ethnic studies departments/programs, various courses in Anthropology (etc.), and by cultural courses in the language departments.

**See the 1977 Academic Review Unit reports entitled, "Life Science-Related Departments and Programs at Berkeley" (page 23) and "Selected Humanities Departments at Berkeley" (page 19).

SECTION I: CHARACTERISTICS OF THE STUDENT POPULATION AND METHODS OF ANALYSIS

THE SAMPLE, SURVEY AND ANALYSIS

Introduction

If the reader is not particularly interested in the methodological aspects of this brief section, a synopsis of the key points necessary to a reading of the text is included at the outset of Section II, "Evaluative Findings" (page 11). Moreover, for the beleaguered nonstatistician, the text always cites the basic percentage data for, say, "agree" and "disagree" responses (but the percentage of students choosing the middle response is usually left for the reader to calculate).

The reader may be interested, in any case, in the characteristics of the sample, the discussion of which begins with the examination of the College-by-College response rates and the overall representativeness of the respondents. In addition, your attention is called to the special analysis concerning the respondents' reported probability of dropping out of UCB (pages 9-10).

Why Lower Division?

The choice of this project emerged out of the recognition that there is too little active University concern for lower division students and their education, that a lower division program evaluation of this type has probably never been conducted at Berkeley, and out of the need for the Academic Review Unit (ARU) to find some meaningful way on occasion to address its efforts to the educational milieu in which lower division students find themselves. (Berkeley's departmental structure at least gives upper division majors a place to focus their desire for educational improvement.)

Questionnaire Development

Development of the Lower Division Program Evaluation Questionnaire (LDPEQ) took up where the Undergraduate Major Program Evaluation Questionnaire (UMPEQ) left off. The UMPEQ was developed in Fall-Winter 1976-77, and was refined further in Fall 1977 on the basis of the results from over 700 upper division majors in Winter 1977.* Many of the items in the LDPEQ are lower-division adaptations of items of similar content in the UMPEQ, but time constraints have not permitted comparison in this report of lower and upper division student responses.** Several other questionnaires used in previous, related research on lower division education were also reviewed for their possible contribution to a program evaluation questionnaire. A set of program evaluation criteria was also examined closely to see that the LDPEQ's coverage was as complete as possible. Some items in the questionnaire were also developed in discussions with the Academic Affairs Vice President and Academic Affairs Office and ARU staff.

A draft of the LDPEQ was circulated for comment/criticism/response to all Academic Affairs Office staff, ASUC Senators, and to the ASUC Executive Officers. The press of time prevented further refinement and broader consultation, but considerable previous work in program evaluation provided some insurance. As it turned out, very few of the items indeed seem to have been rendered useless by ambiguity or misinterpretation by the respondents.***

Considerable care was given to the positioning of the questionnaire items within the LDPEQ. While items with related content were generally grouped in the same section, care was taken in the ordering within sections to minimize the situation in which any one item/statement would "lead" the student to respond in a particular direction on a succeeding item.**** Occasionally, to ensure against "leading" student responses, or as a check on validity, an item was located well away from its closest counterparts.

Sample Selection Procedures

The sample was drawn, taking every nth name, beginning with a randomly-selected name in the first nth, from an unexpurgated, alphabetical list of lower division students, ordered first by College and then by Zip Code.***** A few students without addresses were omitted entirely from the selection.

To obtain at least 30 respondents from most major areas of study, a sample of 75 students was drawn from all four of the smaller colleges at Berkeley, and 300 were drawn from the College of Letters and Science (L & S). The target of at least 30 respondents (and many more in L & S) was decided upon as a reasonable minimum to conduct tests for differences in the pattern of responses, and in the mean ratings by students in the different Colleges or areas of study. Hence, the size of the "nth" varied substantially

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*With the support of Andy Hanami (ARU) and a number of Biology and Zoology students, this questionnaire was revised (maintaining its general content) for the 1977-78 in-depth review of Biology and Zoology, and that revision was the starting point for development of the LDPEQ.

**Since UMPEQ items usually referred to the student's major "program," very few LDPEQ items are worded exactly the same.

***It is somewhat distressing, however, that it is so difficult to word items concerning social responsibility and the adequacy of consideration of the values and assumptions that lie beneath the currently-dominant paradigms in various fields. Nonresponse rates for most such items ranged from 10% to 36%, and, regarding the representation of various "schools of thought" in the curriculum, to 51% in one College. Evidently, Berkeley teaches the subject matter, but not its foundations, so rather large proportions of the student body do not recognize that such questions have meaning, even in scientific disciplines. Perhaps good courses in the history of science and in the social issues and values associated with the practice of every discipline should become a more regular part of the curricula for majors in scientific and technical fields.

****For example, "hours of study per week" was not adjacent to "number of units taken" (which could also, however, reduce the accuracy of the students' estimates of the number of hours they spent studying).

*****Given the ordered list of names, this is a better procedure than random selection.

from College to College, depending on total lower division enrollments. For example, in the College of Environmental Design, almost every second lower division student was included in the sample, while in L & S, it was approximately every twentieth. (After drawing every nth student, a small number of those drawn typically had to be eliminated randomly in order to bring each sample to the exact targeted size.)

Questionnaire Distribution Procedures

The LDFEO was sent by bulk-rate mail, addressed to individual students. A prepaid return envelope and cover letter were also enclosed (see Appendix A for both). Each student (and questionnaire) was given an identification number. As the daily rate of returning questionnaires declined to a trickle after the first mailing, a second mailing, with a second cover note added in, was sent to all the students who had not by that time responded.

General Strategies of Interpretation

All analyses of data broken down by College have been conducted according to the college affiliations of students as maintained in University records as of late Winter Quarter 1978 (i.e., disregarding a small number of students in the process of changing Colleges or who reported prospective majors not available through their current College).

"Absolute" and Relative (Comparative) Perspectives on the Data. In the interpretation of the questionnaire data presented in this text, there are two principal kinds of analytic perspectives employed. The first, or "absolute" perspective, focuses on the percentage of students who chose one (or more) response categories as contrasted with the percentage who chose other response categories. Ultimately, interpretations of results from an "absolute" perspective rely on the item content, including the connotative and denotative aspects of the qualifying adjectives, if any, and the wording as a whole, and the strength of the students' responses, one way or the other. Even so, the interpretations cannot escape all relative considerations. In particular, the "absolute" results are considered, de facto, with respect to a range of possible standards--for example, from the standards one might hope to find in an "ideal university" to what we might "realistically" expect the University of California at Berkeley to be capable of providing as educational offerings and opportunities for lower division students. As a specific example, the fact that during all of Winter Quarter 1978 almost one-third of the respondents had never had even one out-of-class discussion with a professor, would seem as a terrible outcome in a highly-selective, liberal arts college (such colleges are typically the most "ideal" on the faculty-contact dimension). But at Berkeley, this fact might be something we would judge as "not very good" or even "poor," but probably not as "terrible."

The second, or "relative" perspective is one that compares the evaluations by one group of students with those of another group, and bases interpretations of the results on the relative placement of the responses of both groups. In this report, the relative perspective can be particularly important in identifying the comparative strengths and weaknesses of the five Colleges that are being evaluated. On items where a College is evaluated as having a relatively strong performance, it may be able to serve as a model for the other Colleges. In other words, in areas where at least one College shows a strong performance, there is a good likelihood that improvement in the lower-performance Colleges is fairly readily possible. In areas where all Colleges are rated as having about the same degree of weakness, change may be needed across the board (as judged by a more "absolute" perspective), but change may also be more difficult to achieve or require new approaches, especially where inertia or resistance is high.

College-by-College Review of Results. Among the initial steps in the analysis was an examination for differences in the students' responses on a College-by-College basis. This was necessary for three reasons. First, the College-by-College analysis enables the use of the relative perspective (and often clarifies what standards one might expect at the "absolute" level as well). The second reason has to do with the fact that the College is often the only responsible authority for what happens to lower division students, so the Colleges may represent areas of focus where improvements are needed. The third reason to analyze by College has to do with the nature of the sampling, and our desire to report statistics representative of the views of lower division students at Berkeley as a whole.

With regard to this third reason, one can be fairly confident that the total response obtained is generally quite representative of Berkeley's lower division student population as a whole when there are virtually no differences in the responses broken down separately by College. When the responses of students in the five Colleges show any signs of differing,* however, it becomes necessary to employ a procedure to weight the actual results such that they become more representative of the whole of Berkeley's lower division students. (In practice, it should be noted, only rarely did the weighting procedure shift the actual results by more than a few percentage points.)

Weighting. With the exception of the "Departmental Evaluations" (page 13) and the ratings of specific breadth requirement-fulfilling courses (page 21),** the weighting procedure described below was used throughout the analysis. The weighting of the actual responses is based on the student population of each College, as determined from the numbers of students listed by the Office of Admissions and Records as undeclared majors in late Winter Quarter 1978. The proportion of the total population of lower division students enrolled in each College is:

Letters and Science (L & S)	.80865
Engineering	.09061
Natural Resources	.04154
Chemistry	.03674
Environmental Design	.02246
TOTAL	1.00000

*College-by-College differences in the students' responses are cited in the text every time they occurred.
**These other weighting procedures, which are quite similar to the one described here, are discussed in the appropriate portion of the text.

Weighted means and percentages are calculated by multiplying the actual College-by-College results by the appropriate weight (e.g., .80865 for L & S data), and summing the result. Given the massive weight of L & S in this calculation, the weighting procedure has almost no impact on the actual results unless L & S student responses are noticeably higher or lower than those in other Colleges. With the diversity of students in L & S, however, their responses only occasionally fall toward one or the other pole of the College-by-College distribution of responses to any particular questionnaire item.

Analysis of College Differences

In almost all cases, the College-by-College responses were examined with two statistics. The first (Chi-Square) is a test of whether the entire pattern of responses to an item, considered across the five Colleges, appear to differ. The Chi-Square statistic is based on the extent to which the obtained results differ from results that would be expected by chance. The result expected by chance is that the views of the students in each College will be the same (i.e., will be just like the total student response, say, across five categories from strong agreement to strong disagreement).

However, since the pattern of responses across a four- or five-point scale may vary by College in ways that probably have little meaning,* we also used a test of means (F-test) for additional information and as a double-check. Statistically, the F-test is for similar purposes--to ascertain whether the mean student response in the individual Colleges differ. For purposes of calculating the mean ratings, the following illustrates the typical transformation of the qualitative-interval (ordinal) data to numerical figures:

1= Strongly Disagree
2= Disagree
3= In Between
4= Agree
5= Strongly Agree

While the test of means employed is strictly applicable only to scales with true numerical values, I, like many other social science researchers, have found it usually provides as meaningful a statement as any other statistic one could employ with the scales used for item responses. The analysis of means tells us whether the pattern of response differences adds up to a meaningful difference or, alternatively, washes out in minor differences between responses in adjacent response categories (see footnote 1). Moreover, the means of the responses from each College provide a one-figure summary of the results that are influenced, as is often appropriate, by the strength of students' views.

Probability Figures and Confidence Intervals. The results of the statistical tests are expressed in "probabilities." Lower numerical values for these probability figures indicate that there is a greater likelihood that the differences in the College-by-College ratings are in some way meaningful (i.e., that they are less likely to have occurred purely by chance. (Example: .0108 is lower than .0489; hence, the first probability figure expresses a lower likelihood that the result occurred by chance and, correspondingly, a higher probability that at least some of the differences in the responses are meaningful, i.e., are indicative of real differences between the responses of at least some of the groups.) Probability figures are not usually regarded as being indicative of real differences between groups until there is at least a 95% chance that the observed differences did not occur by chance (i.e., when the probability figure is lower than .0500).

In every case where there appear to be meaningful differences between the responses of the students in two or more of the Colleges, a table has been presented which shows the results on a College-by-College basis. Within these tables, a "95% confidence interval" is reported for the mean rating received by each College's program. (These figures are presented in a column headed by "±.95".) Roughly stated, a confidence interval of 0.31 (for example) indicates that there is a 95% probability that the "true" mean falls within "plus or minus" 0.31 points (on the scale) from the mean obtained in the current sampling (as reported in an adjacent column in the table). So, if a mean of 3.75 is reported with a confidence interval of 0.31, the "true" mean has a 95% probability of falling between 3.44 and 4.06 (and is also more likely to fall toward the center of the range, i.e., 3.75, than toward the peripheries).

If the confidence interval range (e.g., 3.44 to 4.06) for the mean of any particular College does not overlap with the confidence interval range of the mean rating of any other College (say, 2.75 to 3.25), the means are "statistically different" at or below a probability of .0500. Where the confidence interval ranges do overlap, it may well not be very safe to attribute any meaning to the observed differences (which, as the reader will see, would be fairly modest in such cases).

Other Statistical Analyses

In a few instances, Pearson correlation coefficients have also been employed/reported. These too are subject to the limitations noted above (e.g., use with true numerical data), but they too represent as satisfactory an approximation as any other measure for the purposes. In all cases where a Pearson correlation coefficient is reported, I have tried to translate its meaning into verbal terms.

*For example, if most of the variation in student responses when broken down by College is with respect to adjacent response categories (e.g., one College's respondents may make heavy use of the category "Strongly Agree" while another College's respondents may make heavy use of "Agree"), the "differences" may be pretty tenuous. The same would be true, for example, of the adjacent responses, "In Between" and either "Agree" or "Disagree."

CHARACTERISTICS OF THE STUDENT POPULATION

This section of the report presents data concerning the respondents--College affiliations, sex, ethnic identification, year in school, source institution, prospective major and career choice, definiteness of major choice, ultimate degree plans, and the relative importance of several possible goals of a college/university education. Where possible, the characteristics of the respondents are also compared with those of the entire population from which the sample was drawn. This comparison is particularly important in any attempt to ascertain whether the respondents are in fact representative of the population for whom they are asked to speak.

Response Rate(s)

Overall, 59.7% of the total sample of 600 students responded. Excluding the 14 students who had moved without leaving a forwarding address, the (net) response rate was 60.8%. This response rate is almost exactly the same as that obtained for a study of student development in a 1970 sample of seniors at UCB, conducted through the Center for Research and Development in Higher Education (using multiple, first-class mailings, and by the University's Office of Student Affairs Research, for a general study of students' experiences here, in a 1978 sample of seniors (using a single first-class mailing, a reminder postcard, and a $100 raffle).

Broken down by College, the gross and net response rates are given in Table A on the following page. (The table, and all the analyses, exclude two late responses received from L & S students.)

Representativeness of the Respondents

Apart from the fact that the response rate is fairly decent--a vital necessity if the respondents are to represent adequately the larger population--several additional checks on the representativeness of the respondents were conducted. For example, we checked to see if there was any substantial sexual or racial bias by comparing the proportion of respondents indicating they were male or female, and marking various ethnic identifications, with similar data about the larger population provided by the Office of Institutional Research. The results of these two checks are shown in Tables B and C on the following page.*

Students' residential status (i.e., where they live) has in previous research been shown to be related to their attitudes toward education, propensity to drop out, political issues, and to their autonomy. Consequently, an analysis of the response rates by students' residences might be especially valuable in an attempt to ascertain the representativeness of the respondents. Since the OAR-provided name list was in Zip-Code order, and since Zip Code areas in Berkeley and vicinity can be broken down in ways associated with various types of residences, a check for the representativeness of the respondents was conducted by Zip Code aggregations. Table D (page 6) presents the results of this analysis.

Finally, a check was run on the relative proportions of freshpersons and sophomores in each of the Colleges, comparing the respondents and the continuing student population in Spring 1978 (when the questionnaire arrived). These results are presented in Table E (page 6).

Net Biases Among the Respondents

The evidence available certainly tends to indicate that the respondents are fairly representative of the population as a whole. If there are biases in the sample of respondents, based on extrapolations from those which we've managed to trace, perhaps the respondents are a little short on the most apathetic students, the most marginal, the alienated, the poor, ethnic minorities already underrepresented here, the severest critics (it's futile to them) and perhaps some conservatives, and students who never pull away from their books.

With respect to the groups that were traced, responses seemed somewhat low from the flatlands of Berkeley, from Oakland (other than 94611--Piedmont), and marginally low from fraternity-sorority residents. Ethnic minority groups already underrepresented at Berkeley (e.g., Blacks, Chicanos, Pilipinos) contributed somewhat fewer respondents than would be expected by their modest numbers. As judged by their GPA, the respondents may be slightly higher achievers than average. White male pre-meds also seemed a little scarce (two or three); by contrast, there were seven female pre-meds. Also, only one pre-med was of Asian extraction. Freshpersons, as contrasted with sophomores, may be overrepresented slightly.

Year in School, Number of Quarters at UCB, Source Institution

Overall, by the time of the survey, 41.5% of the respondents were freshpersons, another 41.5% were sophomores, and 16.9% were juniors.** Considering all the respondents, freshpersons were relatively more numerous in the College of Chemistry (57%), and sophomores and juniors were most numerous in Natural

*Since we have not in previous survey evaluations found many differences between male and female responses to evaluative statements, almost no attention is given to sex-related differences in this report. We did, however, conduct a full set of analyses by sex as a check and, as a further check on the possible differences that emerged as a result of this first set of analyses, a second, three-way set of analyses (sex by intended major area by evaluative variables). A few of the sex-related differences held up, with women students as a rule tending to be less satisfied or more critical in their assessments.

We also conducted a few analyses by ethnic identification, but the small number of students in the non-Asian minority groups almost precluded the possibility of obtaining meaningful results.

**The moderate percentage of juniors results from the inclusion of undeclared majors in the OAR list of names (the sample), and the evolution of some students to junior status between the time we obtained the mailing list (Winter 1978) and the time of the administration of the survey (Spring 1978). Moreover, a few responses were received after the close of the Spring Quarter.

ANALYSES OF RESPONSE RATES & PATTERNS -- REPRESENTATIVENESS OF RESPONDENTS

Table A
RESPONSE RATES BY COLLEGE

College (as originally listed)*	Original Sample Size	(minus) MLNAs**	Net Sample Size	Number of Respondents	Gross Response Rate	Net Response Rate
Chemistry	75	0	75	46	61.3%	61.3%
Engineering	75	-1	74	52	69.3%	70.3%
Environmental Design	75	-3	72	41	54.7%	56.9%
Natural Resources	75	0	75	44	58.7%	58.7%
Letters & Science	300	-10	290	169	56.3%	58.3%
TOTAL	600	-14	586	352	58.7%	60.1%

*The samples were drawn from a Winter Quarter 1978 listing of enrolled students. A few students indicated that they had changed colleges (i.e., by Spring), and a few others listed intended majors not available through their college. Response rates here are calculated according to the original listing.

**Since we included the words "Address Correction Requested" on all outgoing, first-mailing, bulk-rate letters, the Post Office presumably notified us of all changes of address (or the inaccessibility of the person). In calculating net sample sizes and net response rates, these MLNAs (Moved--left no address) and similar designations have been deleted from the original sample. Undoubtedly, however, a few others of our nonforwardable letters never reached the person to whom they were sent.

Table B
PERCENTAGE OF WOMEN STUDENTS: AMONG RESPONDENTS, IN SAMPLE AS DRAWN, AND IN OIR DATA

College (as originally listed)*	Percentage of Women: Among Respondents	In Sample As Drawn**	In Wint. 1977 OIR Stats.***
Chemistry	23.9%	20.0%	21.3%
Engineering	13.5%	17.3%	12.2%
Environmental Design	46.3%	38.0%	32.0%
Natural Resources	51.2%	48.0%	52.0%
Letters & Science	42.9%***	43.7%	47.5%***
TOTAL	37.4%	37.3%	43.2%

*See first footnote, Table A.

**Based on a sort of names into (apparently) masculine and (apparently) feminine categories and, where necessary and possible, a check of the questionnaire item about the respondent's sex.

***The L & S sample includes some students who are juniors (as judged by the number of units they have completed), but who have not declared a major. The Winter Quarter OIR data also includes these students. Judging by the OIR data, 11.6% of our L & S sample falls into this special grouping.

Table C
PERCENTAGE OF ETHNIC MINORITY STUDENTS, AMONG RESPONDENTS AND IN FALL 1977 OIR DATA*

College (as originally listed)**	Black/Afro- Among Resp.	Black/Afro- Fall 1977 OIR Data	Chicano/Mex Among Resp.	Chicano/Mex Fall 1977 OIR Data	Chinese/-Am Among Resp.	Chinese/-Am Fall 1977 OIR Data	Japanese/Am Among Resp.	Japanese/Am Fall 1977 OIR Data	Caucasian Among Resp.	Caucasian Fall 1977 OIR Data	All Other* Among Resp.	All Other* Fall 1977 OIR Data	Decline to State Among Resp.	Decline to State Fall 1977 OIR Data
Chemistry	0.0	1.9	2.1	1.0	21.3	19.4	6.4	6.1	53.2	59.2	10.6	8.1	6.4	4.2
Engineering	1.9	2.8	1.9	1.3	17.0	19.0	7.5	5.7	60.4	61.0	5.7	7.3	5.7	2.8
Envir. Design	0.0	4.4	4.9	2.6	14.6	11.5	2.4	3.1	68.3	63.0	2.4	8.4	7.3	7.0
Natural Resources	0.0	1.8	0.0	0.9	11.4	9.0	11.4	5.4	65.9	69.6	0.0	5.1	11.4	8.1
Letters & Sci.***	3.0	4.1	0.6	1.9	13.2	12.7	3.0	4.7	72.5	64.7	4.2	7.0	3.6	4.8
WEIGHTED AVG.****	1.7	3.4	1.4	1.7	14.8	13.7	5.1	4.9	66.8	64.0	4.5	7.1	5.7	5.2

*The OIR ethnicity data used here foreign students (i.e., includes citizens plus immigrants). Since the percentage of foreign undergraduate students is quite low, we did not ask about citizenship status, and the survey respondents may include a very small number of foreign students. Since the OIR data is for Fall 1977 while our survey was conducted in Spring 1978 (from Winter 1978 lists), the various attrition rates by ethnicity could have a minor influence on these results. The "All Other" category includes a very small number of "no data" (OIR) and blank responses (ARU survey).

**See footnote one, Table A.

***The OIR ethnicity data for L & S includes only lower division students, whereas the ARU sample is drawn on a somewhat larger group of students (see footnote three, Table B).

****The OIR statistics are weighted to correspond with the ARU sample sizes (i.e., N=75 for the first four colleges listed and N=300 for L & S). Thus, apart from the qualifications in the other footnotes here, the figures are comparable.

Table D
NET RESPONSE RATES BY ZIP CODE AREA/RESIDENTIAL STATUS*

College (as originally listed)**	Urban-Suburban Commute*** No. In / No. Out	San Francisco No. In / No. Out	Oakland No. In / No. Out	Elmwood, North Campus & Hill Area (94705,07, 08,09) No. In / No. Out	Berkeley-Albany Flatlands (94702,03, 06,10) No. In / No. Out	Fraternity-Sorority (in 94704) No. In / No. Out	Other 94704 No. In / No. Out	Dorms/94720 No. In / No. Out
Chemistry	9/14	3/4	2/3	4/11	1/3	4/6	7/11	16/23
Engineering	9/11	3/4	4/6	6/8	2/3	5/7	8/13	15/22
Envir. Design	4/8	2/2	1/4	6/9	0/2	2/7	12/21	14/19
Natural Resources	7/8	1/3	1/3	7/12	1/6	6/11	10/17	11/13
Letters & Science	23/44	6/13	10/25	25/33	7/12	21/39	29/51	45/73
L & S Percents:	52.3%	46.1%	40.0%	75.8%	58.3%	53.8%	56.9%	61.6%
TOTAL	52/85	15/26	18/43	48/73	11/26	38/70	66/113	101/150
TOT. PCTS.:	61.2%	57.7%	41.9%	65.8%	42.3%	54.3%	58.4%	67.3%

*This analysis is based on students' addresses as originally listed (i.e., prior to forwarding, if/when necessary), but subsequent to our correction of errors in Zip Code listings.

**See first footnote, Table A.

***Places (and number in/number out) include: El Cerrito (6/10), Richmond-San Pablo (4/7), San Leandro (4/5), Alameda (2/4), Fremont (3/4), Lafayette (3/4), Orinda (3/4), Walnut Creek (2/4), Concord (3/3), Daly City (1/3), Castro Valley (0/2), Danville (1/2), Hayward (1/2), Moraga (1/2), Napa (0/2), Pinole (2/2), Pleasant Hill (1/2), and 23 other cities and towns (15/23), at one potential respondent each.

Table E

FRESHPERSON/SOPHOMORE STATUS*

	Freshpersons				Sophomores			
	Among Respondents		Continuing Students, Spring 1978 (OIR data)		Among Respondents		Continuing Students, Spring 1978 (OIR data)	
College	Pct.	N	Pct.	N	Pct.	N	Pct.	N
Chemistry	62.8	27	53.6	127	37.2	16	46.4	110
Engineering	38.1	16	42.9	249	61.9	26	57.1	332
Envir. Design	50.0	17	36.8	53	50.0	17	63.2	91
Natural Resources	32.4	11	36.2	89	67.6	23	63.8	157
Letters & Science	53.9	76	48.6	2513	46.1	65	51.4	2657
TOTALS	50.0	147	47.5	3031	50.0	147	52.5	3347

*Note that some students change status at the end of Winter Quarter and, applicable only to the later-replying respondents, at the end of Spring Quarter. Since Winter-Spring attrition rates are higher for freshpersons (19.5%) than for sophomores (13.6%), the Spring Quarter figures for "continuing" students understate the proportion of freshpersons as against sophomores in the sample (although one would expect to lose a slightly higher proportion of freshpersons due to drop-outs returning home). In Winter Quarter, 49.3% of freshpersons + sophomores were freshpersons (49.9% in L & S). Juniors were omitted from the calculation because they could not be traced in OIR data (e.g., as they declared a major during Winter Quarter, in many cases).

Based on a review of the breakdowns of the evaluative variables by year in school, the minor-to-modest differences from expectations in the proportions of freshpersons and sophomores has little effect on the overall results (especially since the L & S figure is fairly close to expectation), but there may be minor effects on a few variables (e.g., contact with faculty) and possibly in Chemistry and Environmental Design. (We did not run a three-way crosstab to check on the latter possibilities.)

Resources (52% and 23% respectively) and in Engineering (49% and 21% respectively) [Chi-Square prob.= .0777 or F-prob.= .0149; N= 354]. These differences are largely appropriate to the underlying population (see Table E).

Generally similar results were obtained on the item concerning the number of quarters the students had been at U.C.B.—with 43.1% at 1-3 quarters and 45.3% at 4-6 quarters. In this case, students in the College of Natural Resources had the highest mean (about 5.2 quarters), and L & S the lowest (about 4.2 quarters). Students at 7-9 quarters constituted 9.3%, and 2.3% had been here 10 or more quarters* [Chi-Square prob.= 0325 or F-prob.= .0366; N= 353].

Overall, 86.7% of the respondents came to UCB directly from high school. While there were no significant differences between Colleges when the respondents were broken down by five possible types of source institution [Chi-Square prob.= .3933; N= 354], the distribution was not very suitable to the statistical test. In any case, much of the situation can be understood by reference to the percentage of students in each College who came directly from high school: Chemistry 98%; Engineering 87%; L & S 86%; Natural Resources 82%; and Environmental Design 81%.

Student Plans

Major Choice. In terms of the major toward which the respondents are currently leaning, the following results were obtained, broken down by College affiliation.

College of Chemistry: Chemical Engineering 70%; Chemistry 15%; other 15%.**

College of Engineering: Electrical Engineering and Computer Sciences 38%; Mechanical Engineering 28%; Civil Engineering 21%; Industrial Engineering & Operations Research 8%; other 6%.**

College of Environmental Design: Architecture 81%; Landscape Architecture 7%; other 12%.**

College of Natural Resources: Forestry 27%; Food, Nutrition & Dietetics plus Biology of Natural Resources plus Bioresource Sciences 25%; Conservation of Natural Resources plus Political Economy of Natural Resources 23%; other 25%.**

College of Letters & Science: Social Sciences (including History) 29%; Biological Sciences 17%; Business Administration 14%; Humanities 12%; Physical Sciences 9%; Computer Science 9%; Don't Know/ Blank 7%; other 4%.**

Definiteness of Major. Overall, 34.7% of the respondents were "definite" about their prospective major, and 37.0% were "fairly certain." Most of the remainder were "tentative" (16.9%), but 11.3% were "very tentative" or simply didn't know at all what they might major in. Engineering students expressed the most clarity about their major, with 51% being "definite" and 36% "fairly certain" [Chi-Square prob.= .0376 or F-prob.= .0055; N= 354]. Letters & Science and Natural Resources students tended to be a little less definite than average about their prospective choice of major. In L & S, 30% were "definite" and 36% were "fairly certain"; in Natural Resources, 39% were "definite" and 25% were "fairly certain."

Level of Education Expected. With responses from each College's students weighted according to the actual proportion of lower division students enrolled (per the OAR Winter Quarter name list), the following results were obtained on the LDPEQ question concerning "the highest level of education you expect to attain in the next 10 years":

33.8%— Ph.D. or highest professional degree (e.g., medicine, law, etc.)

44.7%— Master's Degree

1.7%— Teaching credential

19.8%— Bachelor's Degree

Thus the aspirations of most Berkeley students remain quite high, with only one fifth thus far intending to stop at a Bachelor's Degree (i.e., within the next ten years). It is probably rather early in the lives of many of these students, however, to be exactly sure where they're headed in terms of ultimate degree goals and achievements. In view of the different professional norms/career goals of students (see below), there were of course differences from College to College in students' 10-year degree goals [Chi-Square prob.= .0028; N= 348]. L & S had the most respondents in the Ph.D./highest professional degree category (37%), Environmental Design in the Master's Degree category (76%), and Chemistry in the Bachelor's Degree category (38%). The Ph.D./highest professional degree category was chosen by the following proportions in the other four Colleges: Chemistry 21%, Engineering 19%, Environmental Design 10%, and Natural Resources 28%. The other Master's Degree responses totalled: Chemistry 40%, Engineering 54%, Natural Resources 44%, and L & S 37%.

Career Choice. Again weighting for the actual proportion of students in each College, we generated the following list (next page) to depict the career choices toward which lower division students at UCB were leaning in the Spring of 1978. (The respondents may be a little low on pre-meds though.)

*The figures for average number of quarters (i.e., total time at Berkeley) are based on the following conversions: "3 or fewer quarters"= 2.5; "4-6 quarters"= 5.5; "7-9 quarters"= 8; "10 or more quarters"= 11. The average for the total group of respondents is 4.6 quarters (but weighted it is 4.4). Alternatively, if the data is converted to "quarters completed," with "3 or fewer quarters" being set to 2.0 and "4-6 quarters" to 5.0, the resultant average is 4.1 completed quarters (4.8 for Natural Resources, and 3.8 for L & S). This detail illustrates the extent of the experience on which the students draw in giving their evaluations.

**"Other" includes (primarily) majors offered only in other Colleges (but also "Engineering Physics," individual and double majors, etc.).

Prospective Career Choice (weighted)*

Career Choice Coding Category	Subtotals, in Percent	Totals in Percent
Don't Know/Blank		21.97%
Engineering, Computer Science, Chemical Engineering		14.88
Computer-related	4.94%	
Electrical Engineering (including "EECS")	4.05	
Civil Engineering	2.07	
Chemical Engineering	2.03	
Mechanical Engineering	1.79	
Biological Science-related		13.59
M.D., Medical research	6.00	
D.D.S., Pharmacy, D.V.M., Public Health	1.90	
Biological (+ a few Physical) Science applications	4.52	
Forestry and environmental applications	1.17	
Public Service		11.44
Elementary-Secondary Teaching, etc.	3.97	
Misc. Social, Public, Government, Military service	7.47	
Law-related (includes all Law degree pursuers)		11.15
Business-related		11.05
Business-managment-related	9.40	
Engineering-business-related	1.65	
Ph.D.-level research and teaching		7.95
Humanities applications		4.57
Environmental design		2.93
Architecture	2.19	
Landscape Architecture	0.74	
Miscellaneous		0.49
TOTAL		100.02

*The LDPEQ item, a fill-in type with a place also to check "Absolutely don't know," reads: "Toward what career/profession are you currently leaning (as a first choice)?" The breakdown of majors by College (on page 7) gives a sense of difference in careers as well, so no separate breakdown for career choice is presented here.

Student Goals

As part of the effort to understand students' evaluations of their lower division education, it may be helpful to understand the relative importance to students of several different possible goals of a college or university education. The list of mean ratings (below) provides a sense of the relative importance to students of six possible goals of education. The introduction to the item reads, "To what extent are the following goals important to you, and to what extent has your education at Berkeley met them?" The students were then asked to rate, for each goal, "Importance to you" and "Berkeley's contribution." (The mean ratings of "Berkeley's contribution" to these same goals are discussed on pages 33-35.)

Importance of Six Goals of an Undergraduate Education*

	Mean Importance Ratings by Students*										
	Chemistry		Engineering		Envir. Design		Natural Resources		L & S		Between Colleges
Goal	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	F-prob.
Gaining a thorough understanding of the subject matter	4.50	46	4.31	52	4.20	40	4.48	44	4.45	164	.1396
Preparation for a career	4.59	46	4.63	52	4.20	40	4.51	43	4.29	163	.0157
Training in critical thinking and analysis	4.20	46	4.20	51	4.34	41	4.05	44	4.24	163	.5444
A broad, general, humanistic or person-centered education	3.72	46	3.57	51	4.08	39	4.07	44	4.21	163	.0000
Preparation for graduate or professional school	3.40	43	3.86	49	4.08	39	3.83	42	4.01	155	.0241
Social responsiblity or developing skills useful in the community	3.89	45	3.57	51	3.84	38	3.93	44	3.84	161	.3708

*The original questionnaire item is quoted immediately above in the text. The calculation of the mean ratings is based on the following (original) scale: 1= Very Low; 2= Low; 3= In Between; 4= High; 5= Very High. For the overall percentages responses, weighted means, and the ratings of "Berkeley's Contribution" to these six goals, see pages 33-35.

All six goals shown in the table are evidently fairly important to most students in the five UCB Colleges studied. In the most technical-scientific fields, the goal of preparing for a career tends to exceed in importance the goal of "gaining a thorough understanding of the subject matter." These two goals are of highest importance to students in four of the five Colleges; the exception is Environmental Design, where "training in critical thinking and analysis" is first-ranked. In L & S, training in critical thinking and "a broad, general, humanistic or person-centered education" are close runners-up to career preparation as student goals (but are not so close to the goal of understanding a subject matter). Aside from Environmental Design, "training in critical thinking and analysis" tends to receive third-highest ratings, although a broadly humanistic education is essentially of equal importance to it in Natural Resources (and L & S).

Apart from the exceptions noted above, three of the goals tend to be ranked somewhat lower in importance than the others. The goal of a broadly humanistic education ranks from third (tied) to fifth (tied). "Preparation for graduate or professional school" tends to be ranked from fourth to sixth, as does the goal of "social responsibility or developing skills useful in the community."

DROPPING OUT: A SPECIAL ANALYSIS

One of our most important subsidiary concerns in evaluating lower division education was to explore the question of what could be done to increase the probability of student retention (i.e., of student completion of their undergraduate work at UCB). To this end, the following question was included in a neutral location in the Lower Division Program Evaluation Questionnaire (LDPEQ): "Apart from the reasons why, what would you say is the probability that you will transfer or drop out of U.C. Berkeley without returning to finish your education here?" Historically, freshperson-to-senior completion rates at UCB have ranged in the vicinity of 52-55% (per two OIR studies), which doesn't seem to be a particularly good record for an institution that admits only highly able, motivated, and academically-developed students. (Most entering freshpersons are in the upper portions of the top eighth of California's high school graduating class.) However, the last OIR study mentioned was done some time ago.

Among the LDPEQ respondents (with 86.7% coming to UCB directly from high school), 4.0% indicated a "Very High" probability of dropping out (i.e., as defined by the item quoted above), 2.5% marked "High," 15.3% marked "Moderate," 26.9% marked "Low," and just over a majority (51.3%) marked "Very Low."

SHORT TABLE: What is the probability you will drop out or transfer, not finishing here? (N= 353). Very Low— 51.3%; Low— 26.9%; Moderate— 15.3%; High— 2.5%; Very High— 4.0%

In formulating this question, one intent was to correlate the responses with most of the other items in the questionnaire, in order to get some sense of the educational program-related factors which might affect students' decisions to leave UCB. In particular, the list of highest correlates of this item indicate possible targets for faculty/administrative/student efforts to modify the educational process or climate to increase student retention.* However, since reasons for decisions to leave vary considerably from student to student, and with the "predispositions" with which each student arrives at the University, one cannot expect any of the correlates of the responses to this item to account for a high proportion of the reasons why students stay or leave.

Nevertheless, if one assumes that the students' ratings are roughly accurate, the composite picture presented on page 10 can be painted.

In summary, this analysis suggests that retention rates could be improved by increasing student satisfaction with the formal aspects of the educational process as well as with students' total experience while at college. (The section on "Recommendations" provides some specific suggestions in this regard.) Since problems for students seem to emerge with various aspects of the instructional process, that process could perhaps be designed better to address the needs of a broad variety of students by maximizing the role of individual student choice and the University's facilitation of a full array of academic and educational pursuits.

Several items with content associated with humanistic and critical thinking goals of a college education emerged as important in the analysis of the probability of students' dropping out. Competition, the need for students to be aggressive, the mode of testing, the impersonality and (low) level of faculty contact and, to a lesser degree, the burden of required courses, also seem to be important factors. If students have clear and high aspirations, and perceive a stronger UCB contribution to their post-baccalaureate educational plans, they are less likely to leave—but it hardly seems appropriate to discourage able students from coming to Berkeley just because they are still open to change in career goals, seek the growth supposedly available in a college education, or are less sure, initially at least, that they will want to continue on to graduate or professional school. In this regard, it is worth mentioning that Berkeley was not rated very highly for its contribution to a broadly humanistic education, nor to increasing students' intrinsic intellectual motivation, and that almost as many students as not indicated they had "trouble coping with the educational system at Berkeley" (see pages 33-34, 36-37, and 25, respectively).

*Studies such as this one may be especially valuable at U.C. campuses (and other colleges and universities) where students are in short supply. But even at Berkeley, where there are applicants aplenty, it hardly seems appropriate to maintain to any greater degree than is absolutely necessary those aspects of the educational process which undermine the prospects for bringing students' potentials to fruition. Despite Berkeley's greatness in some realms, it is a mistake to assume that all is well with the status quo, or to force all students to fit the current mold(s).

Correlates of Students' Ratings of Their Probability of Dropping Out*

Judging by the Pearson correlation coefficients (see *) between item ratings, students are more likely to drop out if they:

1. Are, overall, less satisfied with their formal "education at UCB (faculty, teaching, advising, courses/ curriculum, governance, etc.)" [18.3%; 19.9%].*
2. Perceive a relatively lower contribution of UCB to:
   a) "Preparation for graduate or professional school" [9.6%; 11.0%].
   b) "A broad, general, humanistic or person-centered education" [8.7%; 10.8%].
   c) "Preparation for a career" [7.4%; 3.3%**].
   d) "Gaining a thorough understanding of a subject matter" [5.0%; 4.1%**].
   e) "Training in critical thinking and analysis" [4.9%; 2.5%**].
3. Perceive less of an increase due to faculty and coursework in their:
   a) "Motivation to pursue [your] own intellectual interests, apart from University classes, grades, degrees, etc." [7.3%; 6.0%].
   b) "Self-awareness, self-understanding, self-knowledge" [5.1%; 4.2%*].
   c) "Ability to formulate and express ideas orally" [4.0%; 3.3%**].
   d) "Clarity about future academic and career goals" [3.4%; 5.3%].
4. Have lower and less clear aspirations, for example:
   a) If they place less importance on "Preparation for graduate or professional school" [6.4%; 5.6%**].
   b) Are not as definite in their choice of major [4.9%; 3.2%].
5. Have more problems dealing with the educational environment at Berkeley, e.g.:
   a) Have "trouble coping with the educational system at Berkeley (class size, impersonality, competition, need to be aggressive, etc.)" [8.5%; 5.5%**].
   b) Feel that "competition for good grades, grading on the curve, cramming for exams, and similar sources of pressure result in an exaggerated workload that impairs other parts of my education and personal growth" [5.4%; 4.0%].
   c) Don't "study and learn best in an environment with competition at a level such as we have here at Berkeley" [4.5%; 2.1%].
6. Are less satisfied with certain elements of the instructional process, for example:
   a) Are more likely to disagree that "even though I might initially have expected more contact with professors, I have been satisfied with the level of interaction I have had with them [4.4%; 2.3%**].
   b) Are less likely to agree that "tests at Berkeley have measured fairly accurately my knowledge of the material in most of my courses" [4.2%; 2.5%**].
   c) Are more likely to agree that "between my College and prospective major(s), there are too many required courses" [2.1%; 4.0%**].
7. Are less satisfied with their "total experience while at college" [15.6%; 18.6%].
8. Report relatively less influence through "interaction with peers (other students, roommates, friends, lovers, etc.)" [1.0%; 4.1%].

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*The item wording and response categories are give in paragraph one of the discussion (page 9). The figures in brackets represent the square of the Pearson correlation coefficient, first for the entire sample and secondly for L & S alone, between the responses to the item on the probability of dropping out and the item(s) in the list. In verbal terms, the squared Pearson correlation can be said to indicate the extent of the predictability of the responses to one of the items (e.g., to the probability of dropping out) from the responses to the other item (e.g., student satisfaction with the formal aspects of the instructional process). For the total sample, percentages of mutual predictability that are about 3% or higher are significant statistically, with a probability that they occurred by chance being less than .001, and for L & S, percentages above 6.3% (or so) are statistically significant with a probability of less than .001. For a probability of .05 or less, the respective percentages of mutual predictability are about 1.1% (entire sample) and 2.6% (L & S). [All tests are two-tailed; no hypotheses were offered prior to testing.] Items are included in the list above only if the square of the correlation exceeded .04 (i.e., 4%), either for the entire sample or for L & S alone. The 4% figure was chosen because very low correlations, although statistically significant with a sample of this size, may not have much real consequence. Please note also that the distribution of responses to the item about the probability of dropping out is decidedly not "normal" (i.e., bell-shaped), so the statistics are rough approximations despite their apparent precision. See also footnote two.

**The Chi-Square test, which disregards such linear trends as may exist (e.g., as shown by the Pearson correlations) but is more appropriate for the distribution of responses to the item about the probability of dropping out, did not confirm a probability of significance at or below .1000 in L & S (only) for the items marked with this footnote. For the entire sample, all Chi-Square tests produced a chance probability of .0876 or lower. For L & S, the average Chi-Square probability figure for the ten footnoted pairs of items is .2397 (the highest individual probability figure being .4575).

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2. Perceive a relatively lower contribution of UCB to:
   a) "Preparation for graduate or professional school" [9.6%; 11.0%].
   b) "A broad, general, humanistic or person-centered education" [8.7%; 10.8%].
   c) "Preparation for a career" [7.4%; 3.3%**].
   d) "Gaining a thorough understanding of a subject matter" [5.0%; 4.1%**].
   e) "Training in critical thinking and analysis" [4.9%; 2.5%**].
3. Perceive less of an increase due to faculty and coursework in their:
   a) "Motivation to pursue [your] own intellectual interests, apart from University classes, grades, degrees, etc." [7.3%; 6.0%].
   b) "Self-awareness, self-understanding, self-knowledge" [5.1%; 4.2%**].
   c) "Ability to formulate and express ideas orally" [4.0%; 3.3%**].
   d) "Clarity about future academic and career goals" [3.4%; 5.3%].
4. Have lower and less clear aspirations, for example:
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   b) Are not as definite in their choice of major [4.9%; 3.2%].
5. Have more problems dealing with the educational environment at Berkeley, e.g.:
   a) Have "trouble coping with the educational system at Berkeley (class size, impersonality, competition, need to be aggressive, etc.)" [8.5%; 5.5%**].
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   c) Are more likely to agree that "between my College and prospective major(s), there are too many required courses" [2.1%; 4.0%**].
7. Are less satisfied with their "total experience while at college" [15.6%; 18.6%].
8. Report relatively less influence through "interaction with peers (other students, roommates, friends, lovers, etc.)" [1.0%; 4.1%].

*The item wording and response categories are give in paragraph one of the discussion (page 9). The figures in brackets represent the square of the Pearson correlation coefficient, first for the entire sample and secondly for L & S alone, between the responses to the item on the probability of dropping out and the item(s) in the list. In verbal terms, the squared Pearson correlation can be said to indicate the extent of the predictability of the responses to one of the items (e.g., to the probability of dropping out) from the responses to the other item (e.g., student satisfaction with the formal aspects of the instructional process). For the total sample, percentages of mutual predictability that are about 3% or higher are significant statistically, with a probability that they occurred by chance being less than .001, and for L & S, percentages above 6.3% (or so) are statistically significant with a probability of less than .001. For a probability of .05 or less, the respective percentages of mutual predictability are about 1.1% (entire sample) and 2.6% (L & S). [All tests are two-tailed; no hypotheses were offered prior to testing.] Items are included in the list above only if the square of the correlation exceeded .04 (i.e., 4%), either for the entire sample or for L & S alone. The 4% figure was chosen because very low correlations, although statistically significant with a sample of this size, may not have much real consequence. Please note also that the distribution of responses to the item about the probability of dropping out is decidedly not "normal" (i.e., bell-shaped), so the statistics are rough approximations despite their apparent precision. See also footnote two.

**The Chi-Square test, which disregards such linear trends as may exist (e.g., as shown by the Pearson correlations) but is more appropriate for the distribution of responses to the item about the probability of dropping out, did not confirm a probability of significance at or below .1000 in L & S (only) for the items marked with this footnote. For the entire sample, all Chi-Square tests produced a chance probability of .0876 or lower. For L & S, the average Chi-Square probability figure for the ten footnoted pairs of items is .2397 (the highest individual probability figure being .4575).

SECTION II: EVALUATIVE FINDINGS

INTRODUCTION

Organization of the Report

It is always difficult to decide where to begin in an analysis of a relatively comprehensive program evaluation questionnaire. We have chosen to start with the respondents' evaluations of their "overall satisfaction" with departmental coursework, because of the central nature of course-taking to the University experience of lower division students (especially). We then proceed to a discussion of advising, since the advising process has the prospect of being a major determinant in the students' subsequent experiences. The report then presents an examination of responses to items concerning faculty and teaching, and several immediate gains resulting from the instructional process. Next is a discussion of the structure and content of coursework, including breadth requirements, and then a consideration of competition, testing, grading, workload, and student performance. A section on student participation in University governance is also included. Finally, the students' assessments of their overall satisfaction with their Berkeley experience, of Berkeley's net contribution to their educational goals, and an examination of the principal influences on their overall growth and learning provide a sense of overview.

Actual Item Wordings

In the discussions in the text, questionnaire items are often rendered in various abbreviated forms. Should the reader wish to refer to the item in its full, original version, the bracketed indications on the edge of the pages may serve as an index to the original questionnaire, which is presented as Appendix A. The numbers in the brackets refer, respectively, to: [Page number of questionnaire/Card number/Column number].*

College Differences and Weighted Responses

Wherever there were differences between the assessments of students enrolled in the five different Colleges included in the survey, these are duly noted, and, where clearly significant differences have occurred, we present a full table of the results. Special care is taken in this regard, because if there exists some semblance of difference in the responses of the students in the different Colleges, the overall response is out of balance compared to what it would be had we employed a random sample. Whenever differences by College have occurred, a weighting procedure has been employed to obtain figures more indicative of what the responses would have been had a random sample been used.** Whenever weighted rather than actual results are reported for an item, this fact is noted with the first percentage figure mentioned in the paragraph. Only occasionally does the weighting result in a shift of more than a few percentage points from the actual total response.

Methodological Notes

Following below is a synopsis of a few of the key methodological and interpretive strategies that you may wish to review before proceeding to the findings:

1) When compared with the original sample drawn from the Winter Quarter list of names, there does not appear to be any substantial bias in the population of respondents as contrasted with nonrespondents.**

2) The language used to describe the strength of student views is systematically ordered thusly: "a plurality" (e.g., agree responses exceed disagree responses, or vice-versa); "a majority" (50-60%); "a large majority" (60-70%); "a very large majority" (70-75%); "a vast majority" (75-80%); and "an overwhelming majority" (upwards of 80%).

3) Many of the Lower Division Program Evaluation Questionnaire (LDPEQ) items are designed in a 1-5, scaled format consisting of: 1= "Strongly Disagree"; 2= "Disagree"; 3= "In Between"; 4= "Agree"; and 5= "Strongly Agree." The words "agree" or "agreement" refer to a combination of the 4th and 5th response categories, and "disagree" or "disagreement" refers to a combination of the first two response categories.

4) Means and percentages are calculated after excluding response categories such as "No Information or Not Applicable" and "Don't Know," as well as blanks (nonresponses). Means are calculated from the numbers associated with each scaled response--e.g., such that a mean response of 3.05 on a scale from Strongly Disagree to Strongly Agree indicates that the "average" student's response is a shade more positive than "In Between."

5) In most cases, the results of two different tests of statistical significance are presented. The "Chi-Square probability" indicates the likelihood that the entire pattern of responses (e.g., across the five categories from Strongly Disagree to Strongly Agree), when broken down by a second variable (e.g., the respondents' Colleges), could have occurred by chance. Probabilities of less than .05 are often regarded as likely indicators that a real difference is present, i.e., that the results obtained probably did not occur by chance. Since a "significant" Chi-Square probability could occur where the only differences between two groups was in adjacent response categories (e.g., Agree vs. Strongly Agree), such that the differences may not be all that important, the F-test probabilities further refine our knowledge. The F-test, as a test for differences in means (e.g., where 1= Strongly Disagree, etc.), perhaps provides a better indication of whether there are differences in the average or cumulative views of a set of subgroups.**

*We have used the card/column approach for reference because the question numbers start anew from Question #1 in each of the several subsections of the questionnaire. Column numbers appear along the right-hand margin of the original questionnaire, and with the page number, usually suffice as a reference.

**The reader may refer to the first section of this report for greater explanatory detail on these points.

DEPARTMENTAL EVALUATIONS

In addition to the Lower Division Program Evaluation Questionnaire (LDPEQ) items about students' general experiences with courses at Berkeley (see pages 20-24), and in order to tie the lower division student evaluations to the departmental reality of the University, the LDPEQ included an item which asked students to fill in a rating, using a 1-7 scale, of their "overall satisfaction" with all departmental coursework they had completed at UCB. The item provided a list of 67 departments (and programs) which offer lower division courses. On the average, each respondent rated 7.91 of these departments. The results of these ratings are presented in the table on the following page.

When the number of student evaluators is low (e.g., especially below 10, but also below 20), one cannot, of course, have as much assurance that the means presented in the table are representative of the results that would have been obtained with a larger sampling. The reader is cautioned about drawing conclusions from those evaluations which are based on only a few student raters.

In using the evaluations, comparisons are most appropriately drawn between ratings of similar departments, particularly when they offer lower division instruction in a roughly parallel style. For example, most of the language departments follow a common model of instruction. The reader may also wish to compare ratings of departments which offer one or two huge lower division courses with other departments which also do so. (Questions remain, of course, about whether the huge-course model is particularly adequate; see also page 23.)

Please note that: 1) the students' ratings may reflect their experience in more than one course offered in a particular department; and 2) the item wording and rating scale are given in footnote (*) of the table.

Weighted Mean

The column entitled "Weighted Mean Rating" is included in the departmental evaluation table to transform the actual, unweighted responses, which are based on the five-College sample, to what would presumably have been obtained had we used a purely random sample (i.e., rather than a random sample within each College). In this weighting, which is "accurate" to the degree that the respondents are representative of the underlying population in the five Colleges (see pages 4 - 6), students in the College of Letters and Science (L & S) are given substantially more weight, and those in other Colleges, less, in accord with their actual population in the Winter Quarter 1978 list of names.* Where differences occur between the weighted and unweighted means, they usually can be attributed primarily to the relatively higher or lower ratings given a department by students enrolled in L & S. A weighted mean can be seen as the "true" estimate, per student, after an average of 4-plus quarters at UCB, of overall satisfaction with a department's courses.**

By way of illustration, consider the Department of Art Practice (see table). The relatively lower unweighted mean shown in the table (4.13) is due primarily to the fairly large number of raters (9/24 or 37.5%) from the College of Environmental Design. However, Environmental Design students undoubtedly do not constitute three-eights (37.5%) of lower division students who have completed one or more courses in Art Practice. In the weighted mean (4.59), the Environmental Design students account for 8.6% of the total number of raters, which should more closely reflect the reality in Art Practice course enrollments.*** Students in L & S constitute 83.2% of the weighted sample for Art, but only 41.7% of the unweighted sample.

Analysis of Service Load

In order to compare the departmental course evaluations by students likely to major in the same general subject matter area (or even the particular department) with evaluations by students for whom coursework in a particular department may be less centrally important (e.g., because of their program or personal interests), the sample was also divided into seven "service load" subgroups. (See footnote *** of table.) The seven subgroups were constituted as a blend of College and subject matter groupings, and were chosen principally to keep each group fairly coherent and large (the latter was not possible in the case of prospective humanities and business administration majors), so that an analysis for differences in the subgroups' evaluations, at least in some of the most heavily-enrolled departments, could be conducted. As it turned out, there were few significant differences between the ratings of the seven subgroups for the various departments' courses.****

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*Each L & S student's response was counted at 1.694 times its actual weight, while responses in Engineering were counted at 0.605, Natural Resources at 0.334, Chemistry at 0.277, and Environmental Design at 0.194. These figures differ slightly from weightings otherwise used in this text, because we dealt here not with the mean or percentage responses of students in each College, but with the original, individual responses. This change in weighting thus adjusts for the fact that we had differential response rates from College to College (which is unnecessary when weighting procedures are applied to the actual means or to the percentages of students choosing the various response categories for other questionnaire items).

**There is no data on the number of courses taken, so there is no adjustment for this factor. Thus the measure is "per student," and not "per course per student" (as in the typical end-of-course evaluations).

***Since the measure is "per student" not "per course per student," if Environmental Design students who take one or more Art Courses ultimately take more total Art courses per student than do students in other Colleges who take at least one Art course, the weighted analysis would underrepresent their contribution to an evaluation of Art Practice courses when compared to course-by-course evaluations.

****This analysis also helps the reader to understand the effects that the different groups (and Colleges, to a lesser degree) have on the weighted mean.

LOWER DIVISION STUDENTS' MEAN RATINGS OF "OVERALL SATISFACTION" WITH DEPARTMENTAL COURSES TAKEN AT UCB,*
Spring 1978

Department	W't'd Mean* Rating	Actual Mean Rating	Stand. Dev.	N	Analysis of Service Load: Differential Ratings***
Aerospace Studies	6.06	5.60	0.89	5	
Afro-American Studies	5.69	4.75	2.50	4**	
Anthropology	4.97	4.93	1.74	56	4.8/17—SS; 5.5/14—Bi; 4.5/8—CED
Art, Practice of	4.59	4.13	2.09	24	3.4/9—CED; 5.2/6—Bi
Asian American Studies	5.26	5.25	1.39	32	5.1/10—Bi; 5.3/8—Ph; 5.2/6—Egg
Astronomy	4.70	4.65	1.80	49	4.6/12—Bi; 4.8/10—Ph; 5.1/9—SS
Biochemistry	5.29	5.00	1.31	8**	5.3/6—Bi
Biology	4.06	4.30	1.86	47	4.2/30—Bi
Botany	5.31	5.78	1.87	18	6.7/6—Bi
Business Administration	3.57	3.93	1.82	30	4.8/8—Ph; 4.1/8—Egg; 2.3/6—Hu
Chemistry	3.80	3.97	1.95	183	***4.7/55—Ph; 3.6/50—Bi; 4.2/47—Egg; 2.4/16—SS
Chicano Studies	1.38	2.75	1.71	4**	
Civil Engineering	4.86	4.97	1.84	38	5.2/18—Egg; 4.1/12—CED; 5.7/7—Bi
Classics (incl. Lat, Greek)	4.50	4.81	1.58	32	3.8/8—Bi; 4.6/7—SS
Comparative Literature	5.75	5.23	1.69	48	4.6/13—Bi; 5.6/12—Ph; 4.7/7—CED; 5.8/6—SS
Computer Science	4.87	4.81	1.71	128	5.1/51—Egg; 4.9/41—Ph; 4.3/15—Hu; 4.3/8—Bi
Conserv. of Nat. Resources	5.84	5.56	1.42	25	5.7/14—Bi 4.5/6—SS
Conserv. & Resource Studies	5.18	5.55	1.61	20	6.0/9—Bi
Dramatic Art/Dance	4.79	4.68	1.86	19	4.5/17—CED; 5.5/17—Hu
Economics	4.59	4.47	1.78	138	4.7/26—SS; 4.0/25—Ph; 4.3/23—Bi; 4.4/23—Egg;
Engineering (general)	5.08	5.24	1.25	59	5.5/42—Egg; 5.0/9—Ph
English	4.51	4.53	1.79	187	4.4/47—Ph; 4.8/33—Bi; 5.1/31—SS; 4.1/24—CED;
Entomology, Pest Mgmt	4.05	3.50	2.43	6**	4.1/20—Egg; 4.7/13—Hu; 4.9/11—Hu
Environmental Design	5.84	5.45	1.62	56	5.3/38—CED; 6.0/6—Bi
Forestry	3.74	4.70	2.01	23	5.8/11—Bi
French	6.10	6.04	1.21	46	6.5/13—SS; 6.3/8—CED; 5.6/7—Hu
Genetics	6.54	6.20	0.84	5**	
Geography	4.72	4.68	2.06	37	5.4/11—SS; 4.5/8—Bi; 4.4/7—CED
Geology	6.01	5.93	1.19	29	5.7/13—Bi
German and Dutch	4.80	4.87	1.73	38	4.8/12—Ph; 5.2/9—Bi; 3.8/6—SS
History	5.23	5.20	1.30	81	5.2/23—SS; 5.5/13—Ph; 5.1/12—Egg; 5.4/11—Bi
History of Art	5.45	5.31	2.02	26	5.2/6—Hu 5.9/9—Hu; 4.9/7—Hu
Interdisciplinary Studies	5.45	5.67	1.55	36	6.0/10—Bi; 6.0/9—SS; 5.6/7—Egg
Italian	5.79	5.50	1.62	12	
Landscape Architecture	5.80	5.64	1.80	11	5.7/9—CED
Libr/Info. Studies (Biblio)	5.13	5.45	1.39	31	5.3/7—Ph; 5.9/7—CED
Linguistics	4.16	3.92	1.88	12	
Mathematics	4.55	4.56	1.60	279	***4.6/69—Ph; 4.9/58—Egg; 4.7/52—Bi; 4.5/32—CED;
Medical Physics	5.06	5.22	1.56	9**	3.9/29—SS; 4.3/23—Hu
Military Science	4.08	5.25	2.44	8	
Molecular Biology	5.88	5.75	1.89	4**	
Music	4.51	4.80	1.97	55	5.1/14—Ph; 4.1/13—Bi; 4.1/7—SS; 5.0/6—Egg;
Native American Studies	4.60	4.71	1.96	17	5.3/6—CED; 5.5/6—Hu
Naval Science	5.82	6.29	1.11	7	
Near Eastern Studies	4.93	5.08	1.56	12	5.3/8—SS
Nutritional Sciences	6.61	6.75	0.46	8	
Oriental Languages	6.06	6.25	0.50	4	
Paleontology	6.04	5.13	2.10	8	6.3/6—Hu
Philosophy	5.22	5.00	1.73	29	6.1/7—Hu; 4.5/6—Bi 6.4/14—CED; 5.6/7—Hu;
Physical Education	5.81	5.90	1.21	124	5.7/28—Bi; 5.7/24—Egg; 5.7/23—SS; 6.4/18—Ph;
Physics	4.44	4.41	1.58	195	4.5/65—Ph; 4.2/53—Egg; 4.5/39—Bi; 4.7/16—CED;
Physiology	5.37	5.18	1.83	11**	5.1/9—Bi 3.5/11—SS; 4.0/7—Hu
Pol. Econ. of Nat. Res.	5.34	5.00	2.27	8	5.5/6—Bi
Political Science	4.98	4.87	1.55	52	5.0/22—SS; 4.7/6—Bi
Psychology	4.93	4.99	1.65	80	5.0/20—SS; 5.6/18—Bi; 5.7/14—Egg; 4.6/8—Hu;
Public Health	4.00	4.00	1.00	3**	4.3/7—Ph; 4.5/6—Hu
Rhetoric	4.30	4.14	2.10	42	3.3/10—Ph; 4.7/9—SS; 2.8/6—Bi
Scandinavian	6.49	6.40	0.55	5	
Slavic Languages & Lits.	6.03	6.20	0.45	5	
Sociology	4.27	4.44	1.96	55	4.6/23—SS; 3.1/8—Hu; 4.0/7—Bi
Spanish & Portuguese	4.76	4.94	1.53	31	4.3/12—SS
Statistics	4.32	4.31	1.71	70	3.8/20—Bi; 4.8/13—Egg; 4.5/13—Hu; 4.5/11—SS;
Strawberry Creek College	5.71	5.67	2.09	15	6.0/8—SS 4.8/8—Ph
Zoology	5.86	5.50	1.38	12	6.0/7—Bi

*The original item read: "For all departments from which you have taken courses at Berkeley, please rate your overall satisfaction with the course(s) you have completed. (When you have taken more than one course from a particular department, simply give one rough, average rating for all courses taken.)" The following scale was employed: 1= Very dissatisfied; 2= Dissatisfied; 3= Somewhat dissatisfied; 4= In between; 5= Somewhat satisfied; 6= Satisfied; 7= Very satisfied. The three departments/programs with one or no raters were omitted from this list. See text for discussion of weighted mean ratings.

**The mean rating for these departments, in addition to the low reliability attributable to the low number of raters, are adjacent in the list to departments receiving a large number of relatively low (or high) ratings, such that a very few mistakes in students' placement of ratings could erroneously affect the low-N department ratings rather markedly. (See Appendix A, page 5, for the original item layout.)

***These entries present the mean rating (and N) for subgroups of 6 or more students in 7 prospective major areas: Bi (Bio. Sci. + Nat. Resources); Bu (Business Admin.); CED (Architecture and Landscape Arch.); Egg (Engineering, except Chemical); Hu (Humanities, excluding History); Ph (Physical Sci., all Chem., Computer Sci.); SS (Soc. Sci., including History). While many of the Ns are too small for a 7-group statistical analysis, only two of the breakdowns by area of study showed signs of statistically significant differences: Chemistry (F-prob.= .0001) and Math (F-prob.= .0416).

ADVISING

Informational Needs

Professor and Course Advising. Overall, the core element in advising — providing information needed by students to facilitate their selection of courses and professors to fit their academic and career goals — was performed with middling effectiveness, and with differential effectiveness in the five Colleges at UCB. In the College of Chemistry, 53% of the students agreed (i.e., marked "Strongly Agree" or "Agree") that the College's written materials and advising system make it easy for them to choose courses and professors and [2/1/29] to understand how best to meet their academic and career needs; 18% disagreed (i.e., marked "Strongly Disagree" or "Disagree").* In Natural Resources, 37% of the students agreed, and 16% disagreed. In the other three Colleges, there was more disagreement than agreement with the proposition that advising was adequate enough to make it easy for students to choose courses and professors: Engineering—36% agree, 46% disagree; Environmental Design—23% agree, 51% disagree; L & S—26% agree, 53% disagree. Overall, 28.3% (weighted) agreed and 49.1% disagreed. Our judgment about these results (advising "performed with middling effectiveness") would have been more severe except that the item is worded rigorously ("makes it easy for me to choose"). The analysis of means:

Professor and Course Advising

Item: "The written information, orientation, and advising provided by my College (faculty, advising center, cluster program, catalogs, secretaries, etc.) makes it easy for me to choose courses, professors, and to understand how best to meet my academic and career needs." [F-prob.= .0000.]

College	Mean	±.95	N	Percentage Responses: All disagree	All agree
Chemistry	3.38	0.29	45	18%	53%
Engineering	2.69	0.34	52	46	37
Envir. Design	2.59	0.35	39	51	23
Nat. Resources	3.19	0.29	43	16	37
L & S	2.53	0.17	158	53	26
TOTALS:	2.76	0.12	337		
Weighted Mean:	2.61				

	Unweighted Totals	Weighted Totals
Str. Disag.	16.6%	19.8%
Disagree	25.5	29.3
In Between	25.5	22.5
Agree	30.0	27.1
Str. Agree	2.4	1.2
	100.0-	99.9

*Means are based on a scale from 1= Strongly Disagree to 5= Strongly Agree (as at right in the table). The "±.95" column presents the 95% confidence interval for the mean. Confidence intervals, weightings and probabilities of significance are explained briefly in the Introduction to Section II and more completely in Section I. "All disagree" = Strongly Disagree plus Disagree; "All agree"= Strongly Agree plus Agree.

Clearly, the Colleges of Chemistry and Natural Resources are doing something more effective in providing professor and course-related advising for students. Parenthetically, we understand that a major transformation of the L & S Advising center is underway, and we have high hopes that advising in L & S, be it regarding choice of courses and professors or concerning other advising needs, will be significantly improved in the near future.

Also apropos of students' informational needs about courses and professors, we asked two questions about Primar, the ASUC Course Evaluation Guide. Overall, 40.5% of the respondents Strongly Agreed and another 45.0% Agreed (together an overwhelming majority) to the proposition that, "All faculty should occasionally use the ASUC Primar questionnaire to evaluate their larger courses and those required for [3/1/65] the major, so that students will have access to evaluations of faculty teaching." Only 4.5% disagreed. [Non-scaled and missing responses totalled 12.1%.] Differences between the responses of students in the five Colleges were of borderline consequence [Chi-Square prob.= .0711 or F-prob.= .1062; N= 311], with Environmental Design students perhaps being a little less supportive of Primar evaluations (17% Strongly Agree, 56% Agree, 25% In Between, 0% Disagree, 3% Strongly Disagree).

Currently, as results on another item suggest, Primar has not been as useful as it might be if faculty followed the recommendation implicit in students' agreement with the previously-cited item. Overall, [3/1/64] 38.7% of the respondents agreed they had "in some way used Primar in deciding which courses and professors to take," and 50.7% had not done so (i.e., to any meaningful extent). While differences between students' responses in the five Colleges were at most of borderline consequence [Chi-Square prob.= .2688 or F-prob.= .0955; N= 333], use of Primar seemed to be slightly higher in Chemistry (54% agree, 35% disagree) and lowest in Engineering (23% agree, 68% disagree). Since the Chemistry Department has in the last year begun to evaluate all of its professors/courses via Primar's service, and Engineering relies primarily on its own

*Reminder: Percentages in the text and means in the tables are based on all scaled responses (i.e., excluding blanks and the "No Information or Not Applicable" responses). The percentage of respondents choosing the response "In Between" is typically omitted from the text, but may be calculated by subtracting the percentage agreeing and disagreeing from 100%. Where 10% or more of the respondents mark "No Information or Not Applicable," or leave an item blank, this fact is also noted. Since the overall maximum number of respondents is 354 (with a few returned questionnaires being more blank than filled-out), the reader may also judge for him/herself the response rate to any given questionnaire item.

internal evaluations, the accessibility of which may or may not be well known to students (especially outside Engineering), the above differences may suggest something about Primer's potential value to students.*

Career Information. Even at these relatively early stages in the educational process, the extent of information about career opportunities was judged as insufficient. The deficiency varied, however, by College. In the best case, in Engineering, 30% of the respondents agreed that they had enough information about career opportunities, and 43% disagreed; in Environmental Design, 20% agreed and 39% disagreed. In the worst cases, agreement about the sufficiency of information about career opportunities was 10% in L & S, 14% in Natural Resources, and 16% in Chemistry, and disagreement was 69%, 55% and 53%, respectively. Overall, 12.3% (weighted) agreed that they had enough information about careers, and 64.6% disagreed. The analysis of means: [2/1/27]

Information About Career Opportunities

Item: "At my stage in the educational process, I have enough information about career opportunities." [F-prob.= .0007.]

College	Mean	±.95	N	Percentage Responses: All disagree	All agree
Chemistry	2.49	0.28	45	53%	16%
Engineering	2.79	0.27	53	43	30
Envir. Design	2.71	0.31	41	39	20
Nat. Resources	2.45	0.31	42	55	14
L & S	2.23	0.14	163	69	10
TOTALS:	2.43	0.10	337		
Weighted Mean:	2.31				

	Unweighted Totals	Weighted Totals
Str. Disag.	15.4%	17.5%
Disagree	42.2	47.1
In Between	27.0	23.1
Agree	14.5	11.6
Str. Agree	0.9	0.6
	100.0	99.9

Graduate or Professional School Information. The sufficiency of information about graduate and professional school programs, even at these lower division students' stages in the educational process, was also judged as inadequate, and there were no significant differences by College affiliation of the respondents [Chi-Square prob.= .5487 or F-prob.= .1633; N= 340]. Overall, 13.3% of the respondents agreed they had enough information about graduate or professional school programs, and 68.3%, a large majority, disagreed. [2/1/28

Advising by Faculty

A vast majority of the respondents (78.4%) agreed and only a few disagreed (6.6%) that "It would be (is) valuable to have a regular faculty advisor." Differences between responses by College of student affiliation were of borderline significance [Chi-Square prob.= .0657 or F-prob.= .0471; N= 334]. The level of agreement went as high as 85% in Chemistry (with no disagreement) and was perhaps weakest in Environmental Design (73% agree, 18% disagree). [2/1/33

Even though having a regular faculty advisor might be of some value to students, it seemed appropriate to check that students didn't respond perfunctorily to the previous question, if they in fact could pretty much "take it or leave it" as far as faculty advice and advisors are concerned. Again, however, a vast majority of the respondents (75.0%) disagreed that "Access to faculty advice, or the chance to get to know a faculty advisor, are not really very important to me." Only 12.0% of the respondents agreed with this proposition. Differences in response by College were of little consequence [Chi-Square prob.= .3959 or F-prob.= .1122; N= 340]. [2/1/34

SHORT TABLE: Access to faculty advice/advisor, not really very important (N= 340).
Strongly Disagree— 30.9%; Disagree— 44.1%; In Between— 12.9%; Agree— 9.1%; Strongly Agree— 2.9%

FACULTY AND THEIR TEACHING

Teaching

In attempting to ascertain lower division students' general assessment of teaching quality, one general item about teaching as well as a number of more specific questions were asked. On the most general item, concerning whether "The teaching at Berkeley is challenging and of high quality," the students' responses were fairly positive, but certainly not overwhelmingly so. Overall, 12.2% of the respondents Strongly Agreed with this proposition and another 42.0% Agreed; disagreement totalled 15.2%. Differences between the ratings of students enrolled in the five different Colleges did not appear to be of consequence [Chi-Square prob.= .0797 or F-prob.= .3887; N= 336]. [2/1/45

SHORT TABLE: Teaching at Berkeley is challenging and of high quality (N= 336).
Strongly Disagree— 2.7%; Disagree— 12.5%; In Between— 30.7%; Agree— 42.0%; Strongly Agree— 12.2%

*But note that even the student ratings from Chemistry may be below their ultimate potential, since: 1) full Chemistry Department reviews have been carried in Primer only since Fall 1977; 2) only about 16 departments evaluate all undergraduate courses through Primer and, although many faculty participate voluntarily, full coverage has not yet been possible to attain; and 3) funding has not been sufficient to publish three issues per year.

Feedback and Assistance. One of the most important elements in good teaching involves the effectiveness of feedback that students receive. In this domain of teaching, students were not particularly happy with the educational process at UCB. Overall, 26.3% agreed (only 1.4% Strongly so) that "Comments or
[2/1/35] review provided by faculty, T.A.s and readers on my midterms, papers, problem sets, experiments and class performance are usually thorough enough." A plurality of the respondents disagreed (45.7%), with 13.0% in the Strongly Disagree category. There were no differences of consequence in the responses when broken down by College [Chi-Square prob.= .1566 or F-prob.= .8403; N= 346]. For example, total disagreement ranged (only) from 43% to 48% in the five Colleges.

SHORT TABLE: Comments or review provided by faculty, T.A.s and readers are thorough enough (N= 346). Strongly Disagree— 13.0%; Disagree— 32.7%; In Between— 28.0%; Agree— 24.9%; Strongly Agree— 1.4%

Also of concern is whether students feel they can readily obtain help when they need it. Most but not all students felt they could. Of those giving a scaled response, 26.8% agreed and 41.7% disagreed
[2/1/40] with the statement that "I have needed further explanation or extra instruction in some of my courses, but help or a referral did not seem easy to obtain." (Roughly a seventh of the respondents, 14.7%, gave a non-scaled response to this item, presumably because they had not needed any additional explanation or instruction and did not want to venture an opinion on the remaining half of the proposition.) Nevertheless, with 31.5% of the applicable responses in the category "In Between" and with as many respondents marking Strongly Agree (7.6%) as Strongly Disagree (5.3%), it seems likely that adequate provision for students who need extra help is not always made or, at least, not always effectively communicated to students (e.g., in ways that make students understand that they are in fact welcome to use the "services" or instructional support that are available). There were no differences of consequence in the College by College breakdown of responses to this item [Chi-Square prob.= .6451 or F-prob.= .5813; N= 302].

Faculty Receptivity to Students

Related to the question of whether students can readily get help when they need it, is the more general question of whether faculty are, or are perceived, as caring, concerned, or welcoming toward lower division students.* Two LDPEQ items were directed toward this area of concern, one a general one, the other concerning office hours.

On the general proposition, lower division students were not particularly convinced that faculty are
[2/1/32] interested in and concerned about them. Overall, 31.9% agreed (11.1% Strongly so) that "Faculty members at Berkeley don't really seem interested in or concerned about lower division students"; 35.2% disagreed (5.0% Strongly so). Another third (32.8%) chose the "In Between" response. There were no differences of consequence when the students' responses were examined separately by College [Chi-Square prob.= .6146 or F-prob.= .7791; N= 341].

SHORT TABLE: Faculty don't really seem interested/concerned about lower division students (N= 341). Strongly Disagree— 5.0%; Disagree— 30.2%; In Between— 32.8%; Agree— 20.8%; Strongly Agree— 11.1%

While there were mixed views on whether faculty are interested in and concerned about lower division
[2/1/30] students, most respondents "felt encouraged or (at least) free to approach faculty members during their office hours." Overall, a large majority of the respondents (60.2%) agreed (16.6% Strongly so) and 14.1% disagreed (2.9% Strongly so). While these results seem fairly positive, from other LDPEQ results and from talking with students, we would conclude that the encouragement to visit faculty members during office hours is not strong enough to draw most students in to visit. The Academic Review Unit's report, Evaluation of Undergraduate Study in the Pre-Health Sciences at the University of California, Berkeley, 1977 advances some recommendations to faculty regarding their office hours that may be helpful in the general lower division context (see pages 9d-9f in that report). Included in the suggestions were the ideas of holding some office hours in neutral settings (e.g., a courtyard), emphasizing that these sessions are just to meet and chat with students (and incidentally, to deal with course-related matters), and the initiation, especially in large classes, of periodic evening problem-solving sessions, with the faculty member present. In the responses to the office hour question, there were no differences of consequence by College [Chi-Square prob.= .5253 or F-prob.= .5710; N= 349].

Contact with Faculty

As part of the effort to evaluate lower division education, we were interested in establishing the extent of faculty contact with lower division students. The LDPEQ included two "behavioral" items about student/faculty contact, and one item that called for a personal assessment or judgment.

One question asked, "About how many Berkeley professors KNOW YOU by name or sight?" [emphasis in
[1/1/21] original]. Despite the emphasis in the original item text, some students still seemed to take the question to be, "How many Berkeley professors do you know by name or sight?" Thus the actual results represent an overstatement, to some unknown degree, of students known to faculty.** Moreover, the question is

*See also the responses to the item about whether students trust faculty to take student needs and views into account in academic decision-making (in the section on "Student Participation in University Governance."

**Despite attempts in the wording of the item to avoid this confusion, it seemed very likely, on the basis of respondents who had crossed out a hasty, high response, and shifted their answer to a lower number of faculty, and a few respondents who specifically flagged key parts of the item's wording, that some students overlooked the attempted distinction entirely. In all, nine students (2.6% of the total) indicated that six or more professors knew them by name or sight and marked, on the subsequent question, that they had not had any out-of-class discussions with faculty members during the entire Winter Quarter. Another 18 respondents indicated 1-2 out-of-class discussions and 14 marked 3-4 discussions— all with six or more professors who know them by name or sight. While a few such responses are probably reasonable, generally they probably are not, especially at the extremes (e.g., zero out-of-class discussions, six faculty who know the respondent). Overall, for example, the Pearson correlation between the two items is .3987—i.e., even with some presumably erroneous responses included.

not very stringent in that it asks students to count all professors who know them by name or sight, and says nothing about the nature of the relationship beyond that. (Further, students may define "professor" to include more than persons with a professorial title.)

Having flagged these various qualifications that indicate the resultant figures represent something of an overestimate, we can now proceed to say that, overall, at least 21.9% (weighted) of the lower division student body is entirely anonymous to the professoriate at Berkeley.* Another 22.6% responded that they were known by name or sight to one faculty member; 17.9% were "known" to two faculty members and 9.6% were "known" to three professors. About one-eighth (13.2%) of the respondents indicated they were known by name or sight to six or more faculty members. Among freshpersons, the percentage of students who are entirely anonymous is at least 26.0% (unweighted). The pattern of responses was somewhat different from College to College [Chi-Square prob.= .0025], but the mean number of faculty who knew the students by name or sight did not vary as much [F-prob.= .0792; N= 352]. Insofar as there were differences between Colleges, respondents in Natural Resources, who also average more quarters of attendance at Berkeley, more departments in which they have taken courses, and include relatively more sophomores and juniors, were "known" by name or sight to more faculty members. About a third (34%) of the Natural Resources respondents marked that they were known by name or sight to six or more faculty members.

Aside from faculty recognition of students by name or sight, students were also asked "About how many times did you have a discussion outside of the classroom with any professor, apart from study list advising, during the Winter Quarter of 1978?" Overall, the answer of 31.2% (weighted) of the respondents was "Never"; 40.1% had had one or two such discussions, 13.5% had engaged in three or four nonclassroom discussions with faculty, and 15.2% had participated in five or more extra-class discussions in Winter 1978. Among freshpersons, at least 34.0% (unweighted) had no out-of-class discussions with professors during the whole of Winter Quarter, and 44.2% had engaged in only one or two such discussions. For all lower division students, the mean number of out-of-class, non-study-list-advising, discussions with professors in Winter Quarter 1978 was about two (2).** Overall, probably over half of these students had had one or fewer out-of-class discussions with Berkeley professors during the entire Winter Quarter.*** The pattern of responses to this item was somewhat different from College to College, but the average number of discussions was fairly similar [Chi-Square prob.= .0495 or F-prob.= .4382; N= 353]. [1/1/22

Given this extent of contact with faculty, were the students basically satisfied or dissatisfied with the amount of contact with faculty? Since students who come to Berkeley may well expect more faculty contact than they actually receive, the item asking about the sufficiency of contact with faculty was posed with a qualifier: "Even though I might initially have expected more contact with professors, I have been satisfied with the level of interaction I have had with them here." Overall, 42.8% of the respondents disagreed (13.4% Strongly so) and 32.3% agreed (only 2.3% Strongly so). Differences in responses by College were of little consequence [Chi-Square prob.= .5460 or F-prob.= .1308; N= 343], with students in Environmental Design being perhaps a little more satisfied with their level of interaction with faculty. [2/1/31

SHORT TABLE: I have been satisfied with level of interaction/contact with professors (N= 343).
Strongly Disagree— 13.4%; Disagree— 29.4%; In Between— 24.8%; Agree— 30.0%; Strongly Agree— 2.3%

Teaching Assistants

As part of this evaluation, it seemed important to solicit lower division students' views on teaching assistants (T.A.s), since their educational experiences with T.A.s are more immediate and current than are those of other students here. Overall, the students' judgments about the proportion of T.A.s who could be characterized as being "knowledgeable and well-prepared in the material being taught" was not terribly high—about 60%.**** The proportion of T.A.s characterized as being "effective teachers in leading class discussions and/or labs" was somewhat lower—about 51%.**** Clearly, there is a need for a continuation of T.A.-training efforts on the campus. Indeed, we had expected slightly more positive results since T.A.-training has been underway, on a fairly comprehensive basis, for a year now. (In any case, the data collected here can help to provide something of a baseline for subsequent assessments of this nature.) There were no differences by College [Chi-Square probs.= .0684, .8613; F-probs.= .5069, .6419; N= 343, 344]. [2/1/47 [2/1/48

Percent of Lower Division Student Responses Indicating the Proportion of T.A.s Who Are Knowledgeable and Well-prepared, and Effective As Teachers

Percent of T.A.s	Knowledgeable and Well-prepared	Effective As Teachers
1= 0- 20%	5.5%	11.6%
2= 21- 40	17.2	24.7
3= 41- 60	23.6	25.3
4= 61- 80	30.9	25.9
5= 81-100	22.7	12.5
Number of Respondents:	343	344
Mean Response:	3.48	3.03

*The unweighted figure for students who are entirely anonymous to faculty here is 19.9%.

**The mean response, in terms of the original categories (with 0= zero discussions, 1= 1-2, 2= 3-4, 3= 5-6, and 4= 7 or more discussions) was 1.2458. A mean of 2.11 discussions emerges if Code 0= 0, Code 1= 1.5, Code 2= 3.5, Code 3= 5.5, and Code 4= 7.5. This calculation probably overcounts the number of discussions in Codes 1 through 3 (where the lower number of discussions is probably more frequent) and undercounts the number of discussions in Code 4 (7 or more).

***As was the case regarding the number of professors who knew the respondents by name or sight, we cannot guarantee that students differentiated "professors" from temporary lecturers, associates in language courses, etc. in the report of their number of out-of-class discussions.

****These percentages are calculated by assuming that all responses in a particular category, such as 21-40%, can be treated as though they would average to the middle of the category's range, such as 30%.

We understand from two participants that the Graduate Division's T.A.-training committee has thus far chosen not to emphasize the comparative use of undergraduate ratings in their assessment of the quality of the various departmental T.A.-training programs. The use of student evaluations for feedback to T.A.s is essential, as the Committee members emphasized. But they erred in deemphasizing the comparative use of mean departmental ratings by undergraduates of T.A.s, on one or two items in common across all end-of-course T.A.-evaluation forms,* as part of the assessment of the quality of the T.A.-training programs in roughly similar departments. (One may compare, e.g., French and Spanish Department T.A.-training programs with each other by means of such ratings, but not French and Mechanical Engineering.)

Moreover, despite ASUC Academic Affairs Office efforts, at the Systemwide level, which helped to launch T.A.-training toward becoming a regular part of University life, and even though the Academic Affairs Vice President is the appropriate officer from whom to solicit undergraduate appointees, the ASUC has not as yet been invited to appoint the undergraduate representatives to the committees which award funds to departments for T.A.-training, evaluate the programs, and monitor T.A.-training generally.

Five Specific Influences of the Instructional Process

In developing the LDPEQ, it was decided to explore the influence or contribution of the instructional process (teaching and coursework, principally) in several different ways. Students' ratings of UCB's contribution to several important, general goals of a college or university education are reported in the section on "Overall Satisfaction and the Contributions of UCB." However, five items were also formulated to evaluate certain more specific goals of a "liberal arts" or pre-graduate education, and these seem most appropriate to present in this section on faculty and teaching.

The lead-in to the five items said: "Thus far, to what extent have faculty and coursework at UCB increased your: [insert item]." Students were also reminded to isolate the impact or effects of the formal aspects of the instructional process by a reiteration, immediately above the scale headings, of "Extent of Increase Due to Faculty and Coursework." The scale consisted of 1= Very Little; 2= Little; 3= Some; 4= Much; 5= Very Much. A "Don't Know" category was also provided (and such responses were, as usual, excluded from the analyses).

Critical Analysis and Research Skills. Two of the five questions focused on the critical-analytical and research processes--processes of importance in any institution purporting to train students to think for themselves, or to provide an undergraduate training that will prepare students for the graduate work toward which many will continue.

Hence, one item asked about the extent of influence due to faculty and coursework on the student's
[4/2/17] "Ability to analyze ideas and information critically." In general, these lower division students gave UCB decent but not outstanding marks. The mean response was 3.53 on a 5-point scale (or 2.53 on an A-to-F scale). Just over a majority chose "Much" (40.1%) or "Very Much" (12.9%). Over a third (35.6%) marked "Some." Only a few gave UCB's faculty and coursework very low marks on this dimension, with 9.6% marking "Little" and 1.8% responding "Very Little." There were no differences of consequence between the ratings of the students in the five different Colleges [Chi-Square prob.= .5464 or F-prob.= .1031; N= 334], but responses in Chemistry and Environmental Design may have been a shade more positive than others.

[4/2/18] With respect to the second key process, the "Ability to research issues, gather materials, etc.," these lower division students' responses were somewhat lower, averaging 3.13 (or 2.13 on an A-to-F scale). The modal rating was "Some" increase due to faculty and coursework (39.0%). Over a third chose the higher responses (with 9.8% in "Very Much") and over a quarter (25.6%) chose the lower responses (with 6.8% in "Very Little"). Differences between students' ratings by College came closer to being significant statistically [Chi-Square prob.= .4215 or F-prob.= .0682; N= 336], with Natural Resources and Environmental Design students reporting in marginally more favorably.

Written and Oral Expression. One might expect a relatively low impact of the formal aspects of the educational process at Berkeley on students' verbal abilities, but hope for a considerable impact on writing abilities, especially with all the concern about the apparent declines in SAT-type test scores (much, but not all of which, can be accounted for). However, the mean response of 3.24 seems rather
[4/2/19] modest to the item about the increase, due to faculty and coursework, in the students' "Ability to formulate and express ideas in writing." And in response to the question about students' increases in the
[4/2/20] "Ability to formulate and express ideas orally," the mean response (2.70) suggested that students do not in fact get much opportunity to practice verbal expression through the formal aspects of the educational process. In both cases, there were differences in the students' responses by College, as shown below.

Increase In Writing Ability

Item: "Extent of Increase Due to Faculty and Coursework [in Your]: Ability to formulate and express ideas in writing?" [F-prob.= .0008.]

College	Mean	±.95	N	Percentage Responses: Very Lit + Little	Very Much + Much
Chemistry	3.43	0.33	44	18%	48%
Engineering	2.63	0.32	49	35	20
Envir. Design	3.45	0.37	40	20	48
Nat. Resources	3.41	0.32	44	18	50
L & S	3.28	0.17	159	22	41
TOTALS:	3.24	0.12	336		
Weighted Mean:	3.23				

	Unweighted Totals	Weighted Totals
Very Little	8.0%	7.3%
Little	14.6	15.6
Some	36.6	37.4
Much	26.8	26.2
Very Much	14.0	13.6
	100.0	100.1

*For student evaluations of faculty teaching, one item is recommended for campuswide use, but not all departments yet submit the appropriate data as part of the faculty promotion process.

Increase in Verbal Ability

Item: "Extent of Increase Due to Faculty and Coursework [in Your]: Ability to formulate and express ideas orally?" [F-prob.= .0105.]

College	Mean	±.95	N	Percentage Responses: Very Lit + Little	Very Much + Much		Unweighted Totals	Weighted Totals
Chemistry	2.74	0.34	43	40%	26%			
Engineering	2.34	0.25	50	50	2	Very Little	15.8%	13.9%
Envir. Design	3.12	0.39	41	34	49	Little	27.1	29.0
Nat. Resources	2.51	0.36	43	49	21	Some	33.9	35.2
L & S	2.74	0.17	159	42	23	Much	18.2	17.0
						Very Much	5.1	4.8
TOTALS:	2.70	0.12	336				100.1	99.9
Weighted Mean:	2.70							

Apropos of these results, particularly with respect to faculty and coursework-induced increases in writing ability, the College of Engineering is the only one that does not require at least one course in reading and composition (i.e., beyond the Universitywide requirement in Subject A). Although 27 units of "humanities and social studies" are required of Engineering students, not more than one course in English composition or rhetoric may be credited toward this requirement. Since three courses from some one department in these areas are also required, one of which must be in upper division, Engineering students may be discouraged from pursuing coursework in departments in which two quarters of reading and composition are essential prerequisites.

Academic and Career Goal Clarity. At the lower division level especially, it may be appropriate for some students' academic and career goals to become less clear (for a time), particularly if they came to Berkeley with a set of academic/career goals that may not leave them very free for growth in other areas, or even to explore whether their intrinsic motivation coincides with their initial directions. Still, it seemed important to get a sense of how much UCB faculty and coursework helped in students' attempts to achieve greater clarity about their goals. Consequently, students were asked about the extent of increase due to faculty and coursework of their "Clarity about future academic and career goals." The responses to this item varied somewhat by College [Chi-Square prob.= .0102 or F-prob.= .0015; N= 337]. Relatively greater contributions to increased goal-clarity, due to faculty and coursework, were reported in those Colleges with relatively more limited and specific subject matters and career domains. In tabular form: [4/2/23

Increase in Clarity About Goals

Item: "Extent of Increase Due to Faculty and Coursework [in Your]: Clarity about future academic and career goals?" [F-prob.= .0015.]

College	Mean	±.95	N	Percentage Responses: Very Lit + Little	Very Much + Much		Unweighted Totals	Weighted Totals
Chemistry	3.33	0.31	42	15%	41%			
Engineering	3.04	0.30	51	32	41	Very Little	13.9%	17.1%
Envir. Design	2.88	0.28	41	31	27	Little	21.7	23.8
Nat. Resources	2.70	0.31	43	35	18	Some	37.7	35.8
L & S	2.63	0.17	160	44	21	Much	22.0	18.3
						Very Much	4.7	4.9
TOTALS:	2.82	0.12	337				100.0	99.9
Weighted Mean:	2.70							

While we cannot, as noted, necessarily posit that an increase in students' clarity about their future academic and career goals is in all cases a positive development, better provision of information useful to students seeking greater clarity is certainly vital. (See above, pages 14-15.)

Women and Minority Faculty

Although lower division students are typically relatively new to the University and its affirmative action issues, and may not be able adequately to distinguish regular ("ladder") faculty from temporary faculty, we nevertheless chose to repeat the questions from last year's upper-division survey about women and ethnic minority faculty. Needless to say, there was a fairly large proportion of respondents who marked the category, "No Information or Not Applicable," or left the items blank—23.7% on the women and 24.9% on the minority faculty questions respectively. But the results nevertheless suggest that lower division students would appreciate having more women and ethnic minority faculty at UCB.* On the item, "There are enough women faculty at Berkeley," 25.5% of the respondents agreed (only 3.3% Strongly so), and 51.5% disagreed (15.6% Strongly so). On the item, "There are enough ethnic minority faculty at [2/1/43 [2/1/44

*In L & S, women students were significantly more likely than men to disagree that there are enough women faculty [mean for women: 2.36; for men: 2.78; F-prob.= .0255. (We did not have the time to explore whether these differences were associated in part with prospective major fields.) Differences were in the same direction, although not statistically significant [F-prob.= .1019] for men and women in the other four Colleges, considered as whole [N= 133].

Berkeley," 29.7% agreed (7.1% Strongly so) and 45.5% disagreed (15.0% Strongly so).* In responding to the question, the students seemed automatically to take some account of the availability pools, or of realistic expectations in their area of study, since there were no differences of consequence between the responses of students in the five different Colleges [Women faculty question: Chi-Square prob.= .8464 or F-prob.= .9150; N= 270. Ethnic minority faculty question: Chi-Square prob.= .4708 or F-prob.= .2938; N= 266].

SHORT TABLE: There are enough women faculty at Berkeley (N= 270).
Strongly Disagree— 15.6%; Disagree— 35.9%; In Between— 23.0%; Agree— 22.2%; Strongly Agree— 3.3%

SHORT TABLE: There are enough ethnic minority faculty at Berkeley (N= 266).
Strongly Disagree— 15.0%; Disagree— 30.5%; In Between— 24.8%; Agree— 22.6%; Strongly Agree— 7.1%

Ideas to Improve Undergraduate Instruction

Two of the LDPEQ questions sought to ascertain student opinion on proposals which might improve undergraduate (and especially lower division) education. One made reference to the proposed Associates Teaching Program, which was included in the University's budget for 1978-79, but was not funded because of the reductions in budgetary expectations associated with the passage of Proposition 13. The second was concerned with the possibility of hiring security-of-employment (SOE) track Lecturers, who are promoted almost entirely on the basis of their teaching ability, to improve instruction in some of the largest, basic, required courses on campus.

S.O.E. Lecturers. With respect to the Lecturers question, the following proposition was asked in the last-page section on "Educational and University Policy": "It's probably a good idea to hire a few more permanent Lecturers (whose promotion is based almost entirely on their teaching ability) to improve teaching in some of the largest, basic, required courses on the campus." An overwhelming majority (84.8%) of the respondents agreed with this statement, 39.1% Strongly so. There were no differences of consequence between the responses of students in the five different Colleges [Chi-Square prob.= .2586 or F-prob.= .5686; N= 335]. [6/3/31]

Associates Teaching Program. In order to get a somewhat realistic picture of student demand for the Associates Teaching Program, the LDPEQ proposition asked specifically about each respondent's potential level of interest in taking Associate-taught courses, rather than simply about whether the students liked the idea. The exact wording was: "I would be interested in taking one or more small, well-planned, experimental, lower division courses taught in their area of interest by advanced graduate students with prior teaching experience—particularly if the classes met breadth or major requirements. [Describes proposed Associates Teaching Program.]" [3/1/54]

Overall, 33.9% of the respondents Strongly Agreed and another 47.6% Agreed with this proposition; 12.4% marked "In Between," and 6.0% disagreed. There was some tendency for responses to vary by College of the respondent [Chi-Square prob.= .0308 or F-prob.= .1025; N= 330]. Natural Resources and Engineering students were perhaps a little more positive toward the idea, with 90% and 88% agreeing, respectively, but agreement was 71% and 74% in Chemistry and Environmental Design, and 82% in L & S. The weighted responses are: 31.0% Strongly Agree and 51.2% Agree. Thus the pool of students potentially interested in taking one or more Associate-taught courses (of the type envisioned) is about 80% of the total number of lower division students, an overwhelming majority in the systematic language of this report, with over 30% expressing a high enough level of interest (i.e., Strongly Agreeing) to suggest that student demand for the Associates Teaching Program is quite real. These results suggest that the program might still be worth procuring funds for, or initiating it on current resources—but, because of the tightness of State and University money, perhaps at half the level proposed initially in 1978-79.

The respondents' overwhelmingly majoritarian agreement on these two propositions for University reform is perhaps not surprising in view of the departmental coursework ratings (above, page 13), other weaknesses in teaching and coursework, and dissatisfaction with class size and the number of small classes they have had (see page 23).

CURRICULUM, COURSES, CONTENT

In addition to the LDPEQ questions soliciting students' evaluations of the individual departments in which they have taken courses (see page 13), the questionnaire also posed a variety of items concerning breadth requirements and several general items concerned with issues such as the number of required courses, adequacy of teaching in large classes, the fragmentation of knowledge into departmental domains, coverage of social issues in the classroom and of nondominant schools of thought generally, and the overall evaluation of coursework at Berkeley.

Breadth Requirements

Overall Value of Breadth Requirements. The most general question concerning breadth requirements asked whether "The courses I have taken at UCB to meet my College's breadth requirements have been of real benefit to me." Overall, the students' responses were fairly positive: 54.5% agreed (only 10.3% Strongly so); 30.8% marked "In Between"; and 14.6% disagreed (4.0% Strongly so). There were no differences of [3/1/50]

*Across all the Colleges, students who "Declined to state" and "White/Caucasians" were more likely than students in the other ethnic identification categories to agree that there are enough ethnic minority faculty at Berkeley [F-prob.= .0000]. As suggested by the F-probability, differences in the mean ratings were substantial: Decline to state, 3.55 (N= 11); Whites, 2.97 (N= 177); Japanese, 2.50 (N= 14); Chinese, 2.18 (N= 39); and Blacks, Chicanos, Latinos and Pilipinos, 1.81 (N= 16).

consequence when the responses were separate by College of student affiliation [Chi-Square prob.= .4235 or F-prob.= .1823; N= 321].

University and College Breadth Requirements. To assess particular requirements more closely, students were asked to rate several specific course offerings, and several specific requirements which may be fulfilled by any of several courses, with the following introduction: "Insofar as you have taken Berkeley courses in the following areas to fulfill University or College breadth requirements, please rate the overall value or benefit to you of the courses you took." The results of these ratings are presented in the following two tables:

Overall Value or Benefit of University Requirements*

Requirement	Weighted Mean**	Actual Mean	N	Actual Percentages: Very Low + Low	Actual Percentages: Very High + High	F-prob. between Colleges	
Subject A	3.28	3.42	89	25.8%	57.3%	.3630	[5/3/21]
Equivalent of Subj. A	3.51	3.53	17	11.8	64.7	.7754	[5/3/22]
American Institutions	3.37	3.42	170	19.4	54.7	.8906	[5/3/23]
American History	3.75	3.75	107	12.1	59.8	.0640***	[5/3/24]

*The response categories, and values employed in calculating the means are: 1= Very Low; 2= Low; 3= In Between; 4= High; 5= Very High.

**The weighted mean is calculated in the manner described in the section on departmental course evaluations (see page 12).

***The College means: Envir. Design, 4.20 (N= 15); Nat. Resources, 3.87 (N= 15); L & S, 3.80 (N= 50); Chemistry, 3.54 (N= 13); Engineering, 3.14 (N= 14).

Overall Value of Benefit of Other Breadth Requirements*

Requirement	Weighted Mean**	Actual Mean	N	Actual Percentages: Very Low + Low	Actual Percentages: Very High + High	F-prob. between Colleges	
1/2 crses, Foreign Lang.	3.89	3.82	99	11.1%	66.7%	.2054	[5/3/25]
English 1A-B	3.31	3.34	170	23.0	51.8	.1272	[5/3/26]
Rhetoric 1A-B	2.88	3.02	45	28.9	37.8	.0227***	[5/3/27]
Comparative Lit. 1A-B	4.03	3.76	41	12.2	65.9	.0285***	[5/3/28]

*The response categories, and values employed in calculating the means are: 1= Very Low; 2= Low; 3= In Between; 4= High; 5= Very High.

**The weighted mean is calculated in the manner described in the section on departmental course evaluations (see page 12).

***The College means, for Rhetoric 1A-B, are: Envir. Design, 4.00 (N= 5); Chemistry, 3.71 (N= 7); Engineering, 3.33 (N= 3); L & S, 2.84 (N= 25); Nat. Resources, 1.80 (N= 5). For Comparative Literature 1A-B, the means are: L & S, 4.15 (N= 20); Envir. Design, 3.63 (N= 8); Chemistry, 3.50 (N= 6); Nat. Resources, 3.00 (N= 7). There were no raters of Comp. Lit. from Engineering.

Commentary on Ratings of Courses Taken to Fulfill Breadth Requirements. University requirements: Given that students may choose from a wide variety of courses to fulfill the American Institutions requirement (e.g., in contrast to Subject A, where options are far fewer), the ratings for these courses are perhaps relatively low. An Academic Review Unit report on Subject A will be forthcoming later this year.

Other required courses: On the whole, the foreign language departments seem to be receiving relatively high ratings on the overall value and benefit of the courses which typically constitute the required sequences. (See also the department by department ratings.) As regards courses which fulfill reading and composition requirements, the results are mixed, with Comparative Literature receiving relatively higher ratings and Rhetoric relatively lower ratings. For purposes of breadth, many students probably take courses in the English Department when they would feel even less comfortable in a more "exotic" equivalent (e.g., Comparative Literature, Drama, Strawberry Creek College, and possibly even Rhetoric), so English may be the recipient of a higher proportion of the most reluctant students.

Number of Required Courses

Courses required of students include those necessary to meet University requirements, College requirements, and those needed for the student's prospective major. In our survey, students were asked their views about the number of requirements they faced. Not surprisingly, student opinion varied from College to College [Chi-Square prob.= .0001 or F-prob.= .0000; N= 338]. Half (50%) of the students in Chemistry and a plurality (48%) in Engineering agreed that there were too many required courses; pluralities in L & S [3/1/51] (48%) and Natural Resources (35%) disagreed, and a large majority (69%) disagreed in Environmental Design. These results are tabled in greater detail on the next page.

The number of courses in one way or another required of students in L & S is seen as excessive by a 27% minority of the students (5% Strongly Agree). However, in considering the newly-adopted changes and additions to the L & S breadth requirements (see below), which add two courses to the requirements and reduce the flexibility of choice for at least two others, it is relevant to remember that 4% of the variation in L & S students' responses to the question about the probability of dropping out can be predicted from their responses to this question concerning the number of required courses. Thus, although the old requirements in L & S are not viewed as excessive (by a plurality of students, that is), the imposition of additional requirements may have a significant impact on a minority of students.

Too Many Required Courses?

Item: "Between my College and prospective major(s), there are too many required courses." [F-prob.= .0000.]

College	Mean	±.95	N	Percentage Responses: All disagree	Percentage Responses: All agree
Chemistry	3.55	0.32	42	17%	50%
Engineering	3.27	0.32	52	33	48
Envir. Design	2.36	0.34	39	69	15
Nat. Resources	2.95	0.34	43	35	26
L & S	2.78	0.16	162	48	27
TOTALS:	2.93	0.12			
Weighted Mean:	2.85				

	Unweighted Totals	Weighted Totals
Str. Disag.	5.6%	4.9%
Disagree	37.0	40.5
In Between	26.0	25.4
Agree	21.9	22.3
Str. Agree	9.5	6.7
	100.0	99.8

New Breadth Requirements in L & S

As a separate part of the last-page section on Educational and University Policy, students in L & S were asked to react to the newly-adopted changes in breadth requirements for future L & S students. (The requirements are to become effective in Fall 1979.) The three areas of change are: 1) a third quarter of one language is added (or two, two-quarter sequences); 2) a beginning course in mathematics, statistics, or computer science, or its equivalent, is to be added; and 3) among the eight required courses for breadth, more specific distribution requirements, including at least two courses in each of the two (or, for some majors, three) subject matter areas outside the student's (prospective) area of study.

Students were asked, "if you were required to" fulfill these requirements, how would you regard each of the changes? The response categories were "Necessary or appropriate," "Unnecessary or inappropriate," and "Don't know." See Appendix A (page 6 of the questionnaire) for the full descriptions given to the students. In summary form, the responses to the three changes in breadth requirements were as shown below:

Lower Division L & S Student Views on Changes in Breadth Requirements

	New Requirement	Necessary or approp. Pct.	Necessary or approp. N	Unnec. or Inapprop. Pct.	Unnec. or Inapprop. N	Totals Pct.	Totals N	Don't know or blank* Pct.	Don't know or blank* N
[6/3/39]	Language requirement (3rd quarter)	35.4	52	64.6	95	100*	147	13.0*	22
[6/3/40]	Quantitative req'mt. (equiv. of 1 crse)	59.4	85	40.6	58	100*	143	15.4*	26
[6/3/41]	Distribution req'mt. change (see text)	38.5	55	61.5	88	100*	143	15.4*	26

*As usual, the "Don't know" and blank responses are not included in the percentaging of the Necessary/Unnecessary responses.

If the "Don't know" and blank responses are included in the calculation of the percentages shown in the table, the response totals are: New language requirement, 56.2% Unnecessary or inappropriate, 30.8% Necessary or appropriate; New math requirement, 50.3% Necessary or appropriate, 34.3% Unnecessary or inappropriate; New distribution requirements, 52.1% Unnecessary or inappropriate, 32.5% Necessary or Appropriate.

Clearly, these lower division L & S students, acting as representatives for classes yet to come, are opposed, as a majority, to two of the requirements and supportive of one. It is interesting to note that the third quarter of required language instruction is rejected by these judges even though they gave fairly high ratings to the courses they took to meet the foreign language breadth requirements (i.e., the 58 L & S respondents did; others presumably passed out of the requirement). Thus the respondents show little evidence of prejudice against foreign language instruction, but agree that "two quarters of language instruction is enough for students who don't want or need, or won't use, more." The ratio of opposition to support for the three-quarter language requirement is 1.8 to 1.0 (against).

The respondents also oppose the new distribution requirements, by about 1.6 to 1.0.

However, the respondents seem to recognize some value in a minimum requirement in quantitative reasoning (i.e., beyond the two years of high school math required for entrance). This result provides evidence, at least, that the majority of lower division students here are not automatically opposed to all requirements.

But if student views matter to faculty in L & S, perhaps the faculty will rescind the requirement of a third quarter of language, abandoning the idea altogether, and rescind the changes in distribution requirements, possibly rethinking the matter of how distribution requirements in fact relate to an effective general education program.*

*In a speech to the faculty of the College of Letters and Science, which last year's ASUC Academic Affairs Vice President Mark Courtney was not allowed to give until after the new requirements had been adopted at the faculty meetings, Courtney was going to suggest that two degrees be adopted—one a Bachelor of Liberal Arts [in Discipline X] the other the Bachelor of Arts. The former would indicate completion of a (yet) more formally structured (and hopefully improved) general education program, together with a major; the second would be awarded for a program such as currently exists, perhaps with a little more flexibility for students in choice of courses.

Overview of Coursework

The "average" student among the ARU lower division sample respondents had taken courses in 7.91 different departments (7.76 if weighted). Apart from Natural Resources respondents, with an average of 10.66 departments, there was little difference in the number of departments in which the respondents had taken courses; the range was from 6.85 in Chemistry to 7.67 in L & S.

Although a wide range of satisfaction (or its lack) with departmental offerings is evident in the data (see page 13), as are other indications of problems with courses (see below), a simple item concerning whether coursework at Berkeley is "interesting and challenging" received the agreement of a large majority of the respondents. Overall, 65.5% of the respondents agreed and only 7.2% disagreed. The strength of this majority view is attenuated slightly, however, by the fact that only a modest 13.9% Strongly Agreed that coursework at UCB is interesting and challenging. There were no statistically significant differences between the responses of students in the five Colleges [Chi-Square prob.= .4016 or F-prob.= .9241; N= 345]. [2/1/41]

SHORT TABLE: Coursework at Berkeley is interesting and challenging (N= 345).
Strongly Disagree-- 1.4%; Disagree-- 5.8%; In Between-- 27.2%; Agree-- 51.6%; Strongly Agree-- 13.9%

Departments and Subject Matters: The "Turn-Off" Rate. As part of the assessment of coursework and instruction, and its impact on students' motivation (see also page 36), students were asked, "About how many departments or subject matters have you been 'turned off to' as a result of your experience in taking classes at Berkeley?" Overall, only 16.3% (weighted) of the respondents reported that they had not been "turned off to" one or more departments or subject matters as a result of their course-taking experiences at Berkeley. [2/1/49]

To establish another meaningful measure, the number of departments or subject matters that each student had been turned off to was divided by the total number of departments in which he/she had taken courses.* The results of this calculation showed that the "Turn-Off Rate" was 21.6% [N= 345]. In other words, whether it was the first course taken in a department by a student, or a later one that brought about the results, just over one-fifth of students' experiences in departmental coursework (ultimately) "turned them off" to the department or, worse yet, to the subject matter itself. Differences between the results by College of respondent did not reach statistical significance [F-prob.= .1535; N= 345], but the "Turn-Off Rate" seemed slightly lower among Engineering students (16.7%) and possibly higher in L & S (23.2%) and Natural Resources (23.0%). The weighted "Turn-Off Rate" was 22.5%.

Class Size

Although a plurality of the respondents (40.9%, weighted) agreed that the large lecture courses they have taken at Berkeley have generally provided adequate learning opportunities, only 3.3% Strongly Agreed. And 33.7% disagreed (9.4% Strongly so). Differences between the responses of the students in the five Colleges were possibly of consequence [Chi-Square prob.= .0495 or F-prob.= .0201; N= 344]. In tabular form: [2/1/46]

Adequate Learning Opportunities in Large Lecture Classes?

Item: "The large lecture classes that I have taken at Berkeley have generally provided adequate learning opportunities." [F-prob.= .0201.]

				Percentage Responses				
College	Mean	±.95	N	All disagree	All agree		Unweighted Totals	Weighted Totals
Chemistry	3.23	0.34	44	27%	52%			
Engineering	3.08	0.29	52	25	44	Str. Disag.	10.5%	9.4%
Envir. Design	3.38	0.31	40	23	55	Disagree	21.8	24.3
Nat. Resources	2.63	0.37	43	47	35	In Between	24.4	25.4
L & S	3.01	0.16	165	35	40	Agree	39.8	37.6
						Str. Agree	3.5	3.3
TOTALS:	3.04	0.12	344				100.0	100.0
Weighted Mean:	3.01							

Since this item was not worded very strictly (i.e., "adequate" rather than, e.g., "good" learning opportunities were the focus of the ratings), the student evaluations do not seem to be particularly positive as regards the large lecture courses they have taken here. Apart from the quality of the learning opportunities in large lecture classes, a plurality of the respondents (45.1%, weighted) disagreed that they had had a sufficient number of small classes (defined as 30 or fewer students). But 40.4% did agree they had had enough small classes. Again there were differences when the responses were broken down by College [Chi-Square prob.= .0148 or F-prob.= .0132; N= 345]. And students in Environmental Design again seemed most satisfied--47% agreed and 26% disagreed that they had had enough small classes. Differences between the responses by students in the other four Colleges were modest, with disagreement ranging from 43% to 59%, and always in a plurality. These results are presented in table form atop the next page.

Course Content

While it was entirely impossible to inquire extensively into specific content being studied by students interested in so many different subject matters, the Academic Review Unit questionnaire did inquire about three possible common themes, viz., coverage of social issues and nondominant schools of thought, the extent of fragmentation in the curriculum, and the adequacy of methodology, lab, or technical courses. In general, pluralities or slim majorities of these lower division respondents agreed that these features of the University's educational process were satisfactory, but the lack of strength in the students'

*The divisor here was calculated by summing the number of responses to items [5/2/25] through [5/3/20].

Enough Small Classes?

Item: "So far, I have had a sufficient number of small classes (i.e., of 30 or fewer students." [F-prob.= .0132.]

College	Mean	±.95	N	Percentage Responses: All disagree	All agree
Chemistry	2.57	0.33	46	59%	22%
Engineering	2.47	0.32	53	57	26
Envir. Design	3.32	0.38	38	26	47
Nat. Resources	2.73	0.39	44	52	41
L & S	2.88	0.20	164	43	43
TOTALS:	2.80	0.13	345		
Weighted Mean:	2.83				

	Unweighted Totals	Weighted Totals
Str. Disag.	18.0%	19.4%
Disagree	28.7	25.6
In Between	15.7	14.4
Agree	30.4	33.1
Str. Agree	7.2	7.3
	100.0	99.8

affirmatives as well as the sizable minorities who are less satisfied suggest certain weaknesses. See also the students' ratings of the University's contributions to social responsibility and skills useful in the community, and to a broadly humanistic, general education (pages 33-34).

[2/1/42] Although 17% of the respondents did not or could not answer (and were excluded from the analysis), 41.1% of the remainder agreed (only 5.8% Strongly so) and 21.0% disagreed that "Faculty at Berkeley show enough concern about social issues in teaching their subjects." The modal response, at 38.0%, was "In Between." Since the item generalized to "faculty" (i.e., as a whole), many students (e.g., disagree plus In Between = 59.0%) are probably indicating that some faculty do, and some faculty don't, show enough concern for social issues in teaching their classes. Although the recognition of the applicability of this item (i.e., the willingness to venture a scaled response) seemed slightly higher in Environmental Design (93%) and L & S (88%), versus 72-77% for the other three Colleges, there were no differences in students' opinions by College [Chi-Square prob.= .7302 or F-prob.= .8306; N= 295].

[3/1/57] Perhaps because of their limited experience at UCB thus far, a much larger proportion of the respondents, 36%, felt unable or unwilling to give an agree-disagree, scaled answer to an item concerning whether there are enough courses available at UCB which explore the contributions of various nondominant "'schools of thought' (e.g., radical, conservative, futurist, traditionalist, feminist, Third World, etc.)." Chemistry students were least likely to give a scaled response to the question (at 49%, versus 62-68% for the other four groups). Of all those who answered, a majority (52.5%) agreed that coverage of nondominant schools of thought was adequate, and 28.4% disagreed. (However, Strong Disagreement, at 10.2%, equalled Strong Agreement, at 9.8%.) Again there were no differences of consequence between the responses of students in the five Colleges [Chi-Square prob.= .6775 or F-prob.= .4215; N= 225].

[3/1/52] In response to the proposition that lower division courses (apart from those in the student's prospective major) don't relate well to each other, that it is hard to get a broad or interdisciplinary perspective--28.7% of the students agreed and 45.0% disagreed (only 3.5% Strongly so). There were no differences of any consequence between the responses of students in the different Colleges [Chi-Square prob.= .8348 or F-prob.= .8701; N= 318]. A tenth of the respondents did not mark a scaled response to this item.

[3/1/55] A very similar net response, 30.7% agree, 43.3% disagree, was given to the statement that methodology, lab, or technical courses at UCB do not provide enough experience in real problem-solving and analysis. (The 24% who didn't choose a scaled response are as usual excluded from the percentage calculations.) There were no significant differences between the responses of the students in the five different Colleges [Chi-Square prob.= .3702 or F-prob.= .1144; N= 270], although disagreement may have been slightly higher in Chemistry (58%) than elsewhere (34-46%).

COMPETITION, TESTING, GRADING, AND STUDENT WORKLOAD AND PERFORMANCE

The styles of testing and grading have a considerable impact on the educational climate in which students learn, and on how well they learn. At Berkeley, with some exceptions for courses developed principally through the dedicated commitment of a few professors with an interest in innovative teaching, much of the grading is competitive in nature and many faculty seem to be unable to conceive of an educational system in which standards of quality and workload expectations remain high, yet in which competition is minimized. The Academic Review Unit's surveys of a fair proportion of upper division majors last year, however, as well as many of the results from the current survey of lower division students (see below), suggest that reasonable absolute, or mastery, standards, as well workload standards (i.e., the requirement of a set quantity of output of good quality), tend to be favored by many students. In addition, greater learning (not to mention strengthened motivation, based ultimately on standards intrinsic to the individual) seems more likely to occur in a less competitive academic environment.*

*Toward the end of this report, we discuss an item concerning the extent of increase in students' intrinsic motivation due to faculty and coursework at UCB. In brief, the results, in terms of the University's contribution to students' "Motivation to pursue your own intellectual interests, apart from University classes, grades, degrees, etc." are: 12.1% Very Much; 22.4% Much; 25.1% Some; 23.0% Little; and 17.4% Very Little.

Competition

The LDPEQ included three questions addressed directly to the effects of competition at UCB--about its impact on students' broader education and growth, about whether competition was useful as a stimulant to study and learn, and about whether students have difficulty coping with the resultant educational system. Responses to all three items were significantly related to students' reported probability of dropping out, such that the student who is relatively more dissatisfied with the types and extent of competition at Berkeley is also more likely to report that he/she has a higher probability of dropping out (see pages 9-10).

The sources of influences and impact on students enrolled in the University are not limited to those derived from the formal aspects of the educational process. (For example, see pages 35-36.) Since the maximally effective instructional program would be designed to interact in a mutually supportive way with the other elements of college life, we sought to find out whether academic pressures contributed or detracted from the total experience at UCB. Accordingly, students were asked whether competition for good grades, grading on the curve, cramming for exams, and similar sources of pressure resulted in an exaggerated workload that impairs other parts of their education and personal growth. A large majority of the respondents (62.8%) agreed that these competitive pressures and the open-ended workload that results do impair other parts of their education and personal growth. About one-sixth (16.9%) disagreed. Differences in student views regarding this matter did not seem to vary from College to College [Chi-Square prob.= .7638 or F-prob.= .1769; N= 344]. [3/1/70

SHORT TABLE: Competition pressures impair other parts of student's education and personal growth (N= 344).
Strongly Disagree-- 4.7%; Disagree-- 12.2%; In Between-- 20.3%; Agree-- 35.2%; Strongly Agree-- 27.6%

Despite the likelihood that academic competition and workload pressures do in fact detract from other aspects of most students' education and personal growth, competition is often thought to serve as an important external, motivating force for students.* In response to an item of inquiry along these lines, a minority of students (35.1%) agreed that they study and learn best in an environment with competition at a level such as we have here at Berkeley. While disagreement prevailed by only a small plurality (38.4%), Strong Disagreement was twice as prevalent as Strong Agreement. With the possible exception of students in Natural Resources, with 58% disagreement and 21% agreement, differences between the responses of students in the five Colleges were not of much consequence [Chi-Square prob.= .22[illegible] or F-prob.= .0242; N= 336]. [3/1/68

On the other side of the coin, the proportion of agreement with a relatively strong proposition, "I have trouble coping with the educational system at Berkeley (class size, impersonality, competition, the need to be aggressive, etc.)," might be indicative of the proportion of students for whom the educational process here poses very real problems. Overall, students' responses were very nearly equally divided on this item--36.6% agreed they had trouble coping with Berkeley's educational system, 36.8% disagreed, and 27.7% chose the middle response. With the possible exception of students in Environmental Design, where agreement was 17% and disagreement 49%, there were no differences between students' responses in the five Colleges [Chi-Square prob.= .3082 or F-prob.= .0566; N= 350]. Since "Strongly Agree" responses may be especially indicative of the proportion of students severely affected, it is relevant to mention that about one student in eight (12.9%) chose this response. [3/1/69

SHORT TABLE: I have trouble coping with the educational system at Berkeley (N= 350).
Strongly Disagree-- 8.9%; Disagree-- 26.9%; In Between-- 27.7%; Agree-- 23.7%; Strongly Agree-- 12.9%

Testing

As has been suggested, the styles of testing and grading may have a lot to do with the extent of competitive pressures that result. One prerequisite of a more absolute/mastery or workload-standards approach, for example, is that faculty know in advance what they will require for an "A," "B" or other grade. But whatever the testing-grading system, it seems only fair that students be made aware, as fully as possible, about faculty expectations at the outset of all courses. Unfortunately, only a little over a quarter (26.6%) of the respondents agreed that faculty at Berkeley "clearly state at the outset what courses will cover and what students need to know or do to get an 'A.'" Moreover, Strong Agreement was only 1.5%. A large plurality (49.0%) disagreed that faculty were clear about expectations, and another quarter (24.5%) chose the middle response. Despite somewhat differing subject matters which students are likely to encounter in the five Colleges' typical course enrollment patterns (and the "hard" content more typical in some Colleges than in others), there were no differences of any consequence between the five groups [Chi-Square prob.= .7427 or F-prob.= .8450; N= 343]. [2/1/39

The nature and adequacy of tests also have an impact on the educational climate. Consequently, students were asked to respond to the statement, "Tests at Berkeley have measured fairly accurately my knowledge of the material in most of my courses." (Note the two qualifiers, "fairly accurately" and "most of my courses.") Overall, more respondents agreed (39.6%) than disagreed (28.9%) to this modest-expectations item, but only 2.0% Strongly Agreed (9.9% Strongly Disagreed). Differences between the responses in the five Colleges were of no real consequence [Chi-Square prob.= .2973 or F-prob.= .7005; N= 343]. As one indication of the importance of testing, it should be noted, responses indicative of less confidence in the accuracy of testing were significantly associated with a higher reported probability of dropping out. [2/1/37

SHORT TABLE: Tests have measured my knowledge fairly accurately in most courses (N= 343).
Strongly Disagree-- 9.9%; Disagree-- 19.0%; In Between-- 31.5%; Agree-- 37.6%; Strongly Agree-- 2.0%

One typical criticism of many tests is that they overemphasize details. The modal response to the statement that "Tests here usually overemphasize soon-to-be-forgotten details rather than the fundamentals of the subject matter" was "In Between" (41.6%). [Note "usually" in the wording, which lowers expectations [2/1/38

*Please note that reasonable, absolute/mastery and/or workload standards would probably serve as adequate motivators for students who are positively motivated to study by the pressures of competition as well as for those who are not.

as contrasted with a blanket statement.] Nearly a third (31.9%) disagreed and over a quarter agreed (26.4%) that tests here usually overemphasize soon-to-be-forgotten details rather than fundamentals. Strong Disagreement was rare (2.6%). Differences between student responses in the five Colleges were of little consequence, despite the differing subject matters [Chi-Square prob.= .1437 or F-prob.= .1028; N= 341], although Natural Resources students were perhaps a little more likely to agree (35%) than disagree (21%).

These responses seem to indicate that there is considerable emphasis in testing on "soon-to-be-forgotten details," perhaps arising from faculty members' "needs" to include considerable detail in tests— if they expect to be able to make distinctions between students on a competitive (curve-graded) basis. As a result of this situation, faculty may tend to overlook the fact that the "necessity" to include (many) details on a particular test requires that students attempt to learn the details for the entirety of the coursework to the equivalent depth (or more, since they have little advance knowledge of test content in many cases).

[3/1/59] Apropos of the most effective instructional, testing, and grading system design(s), a vast majority of the students (78.6%) agreed that "The real value to me of course and lab work is not usually in the details—which I soon forget anyway—but in that I have been thoroughly exposed to the concepts involved." Only 6.8% disagreed. There were no differences of consequence between the students' responses in the five different Colleges [Chi-Square prob.= .0884 or F-prob.= .2577; N= 337].

SHORT TABLE: The real value of course and lab work is in the thorough exposure to concepts (N= 337). Strongly Disagree— 2.1%; Disagree— 4.7%; In Between— 14.5%; Agree— 51.9%; Strongly Agree— 26.7%

Note that the approaches to learning which are suggested by this response, viz., to test for understanding of a broader array of fundamentals, together with only the critical details, fits in well with the use of mastery learning or with workload standards in grading. Moreover, since most people will ultimately specialize in their work roles, even those requiring advanced degrees, probably less than 10% of the details students can remember, even in their major field, will be of use to them as they pursue post-baccalaureate paths of many varieties. Ultimately, what may count most is the student's basic understandings of the field, knowledge of the crucial supporting details, the capacity to re-learn the details easily when (if) necessary, the general competencies in the methods of the discipline, and the breadth of academic and human development generally.

Student Workload

[2/1/36] A vast majority of the respondents (75.5%) agreed that grading is very rigorous, that it is hard to get an "A" grade. Only 7.8% disagreed. There were no differences of consequence by College of affiliation of the respondents [Chi-Square prob.= .5205 or F-prob.= .1746; N= 346].

[3/1/56] A large majority of the respondents (65.7%, weighted) also agreed that students at Berkeley must do a lot of work for the number of units awarded; only 6.4% disagreed. In this case, however, there were significant differences when the responses were broken down by College, primarily in the strength of agreement [Chi-Square prob.= .0110 or F-prob.= .0018; N= 338]. In tabular form:

Lots of Work for Number of Units Awarded

Item: "Students at Berkeley must do a lot of work for the number of units (credit) awarded." [F-prob.= .0018.]

				Percentage Responses				
College	Mean	±.95	N	All disagree	All agree		Unweighted Totals	Weighted Totals
Chemistry	4.30	0.27	44	7%	86%			
Engineering	4.06	0.25	51	6	76	Str. Disag.	0.0%	0.0%
Envir. Design	3.66	0.31	38	11	55	Disagree	7.1	6.4
Nat. Resources	3.70	0.27	43	9	60	In Between	25.4	27.8
						Agree	40.2	41.5
L & S	3.80	0.13	162	6	64	Str. Agree	27.2	24.2
TOTALS	3.88	0.10	338				99.9	99.9
Weighted Mean:	3.84							

Thus, although majorities in all five Colleges agree they must do a lot of work for the number of units awarded, when considered separately by College, students in Chemistry, especially, and to a lesser extent, in Engineering, indicate more strongly that they must do a lot of work per unit.

[1/1/26] [1/1/23] These student opinions are partially confirmed and perhaps partially challenged by the results from a calculation involving two other items— (1) the number of reported hours of study outside of class in Winter Quarter 1978, divided by (2) the number of reported units carried (also for Winter Quarter). Given the official workload standard, viz., that each unit of coursework requires about two hours of study outside the classroom, the results of this analysis provided no real confirmation that the workload per unit that was actually invested by the "average" student was unduly heavy, but Chemistry students again emerged with the highest reported hours of study per unit.

A number of qualifications concerning this data are explored in the paragraph following the table on the next page. But one factor in particular may play a large role in the apparent discrepancies: Students may well have rated the workload demands as high (table above) with reference to the amount of study or work that would be required to do well (i.e., get an "A" grade), even though many of them probably give up on getting good grades in certain courses, or never really try very hard in the first place. Students' motivation to work hard is almost undoubtedly undermined by the rather minimal assurance that putting in

long hours of study will actually be rewarded in the currency (grades) of the academic world. Your attention is called in particular to the discussion of "Grade Point Average (GPA)" on page 28.

Hours Per Unit Studied*

Items: "During the Winter Quarter of 1978, about how many hours per week did you study outside of class and lab?" [response divided by the response to:] "How many units did you take in Winter 1978?" [F-prob.= .0001.]

College	Mean*	±.95	N	Percent Less Than or Equal to One Hour Per Unit	Percent Greater Than or Equal to Two Hours Per Unit
Chemistry	1.90	0.21	47	13%	34%
Engineering	1.66	0.24	53	25	26
Envir. Design	1.81	0.25	41	15	39
Nat. Resources	1.59	0.23	44	25	32
L & S	1.39	0.11	168	35	17
TOTALS:	1.57	0.08	353		
Weighted Mean:	1.45				

*The original metric is shown in Appendix A. For this calculation, the response categories were recoded to the midpoint of the range of each category. For example, "16-20" hours of study per unit was set equal to 18; also, "41 or more hours per week" was set equal to 43, as if the range were 41-45, perhaps lowering slightly the mean hours per unit studied (5.7% of the respondents checked this response). The reader should also review the other qualifications concerning this data that are discussed in this section of the text.

While the average number of hours per week of out-of-class/lab study reported above may in some cases seem low (e.g., compared to the official workload standard), several qualifications must be kept in mind. Among them are: 1) the averages include students who are doing less well academically as well as those who are doing reasonably well;* 2) some courses, including many in which these lower division students were enrolled, require unusually demanding class and lab schedules;** 3) it is not clear how students counted language labs—a qualification perhaps particularly applicable to L & S—or how they counted time spent beyond that actually scheduled for science labs; 4) some particularly well-prepared students may do well with less than expected amounts of study;*** and 5) informal forms of study, particularly discussions with classmates, may or may not have been included in reported hours of study—a qualification perhaps particularly applicable to the social sciences and humanities. In addition, although the item was meant to include such activities as paper-writing, it did not specifically indicate as much.

Student Preparation and Performance

High School Background. With reference to the validity of predicting student performance at the University from high school grades, the (Pearson) correlation between students' high-school GPA and GPA at UCB was .3835 ($p \leq .001$). Hence, prediction of students' UCB GPA, after an average of about 4.2 completed quarters at Berkeley, can be improved by 14.7% beyond chance by knowing their high-school GPA.**** The average high-school GPA for the respondents was 3.64 and there were no differences of consequence by College [F-prob.= .6740; N= 352]. [1/1/10-11]

With reference to students' views of the quality of their high school preparation, the retrospective evaluation requested on one LDPEQ item resulted in the following response: 16.4% Strongly Agreed that their "high school background prepared me pretty well for my coursework at UCB" and another 31.7% Agreed. One-eighth (12.7%) Strongly Disagreed and another 21.9% Disagreed. Just over one-sixth (17.3%) chose the "In Between" response category. There were no variations of consequence in students' responses by College [Chi-Square prob.= .2332 or F-prob.= .5305; N= 347]. [3/1/60]

SHORT TABLE: My high school background prepared me pretty well for my coursework at UCB (N= 347). Strongly Disagree— 12.7%; Disagree— 21.9%; In Between— 17.3%; Agree— 31.7%; Strongly Agree— 16.4%

*One might expect that those who didn't study as much would have a lower UCB GPA. However, as noted subsequently (page 28), there is a very low correlation between Winter Quarter 1978 hours studied per unit and overall GPA at UCB.

**For example, Chemistry 1B, a typical second-quarter (Winter) endeavor for many students (183 of 354 respondents had taken one or more Chemistry courses here), requires 7 hours of class and lab time per week for only 4 units credit. Since forty-plus percent of the respondents are freshpersons, one would expect (by chance, from the above 183) that perhaps 76 had taken at least one Chemistry course, and maybe that upwards of 50 were enrolled in Chemistry 1A or 1B in the Winter of 1978. If three "extra" hours of class/lab time per week for 50 students are counted as study time instead, the overall mean would move from 1.57 to about 1.60. In addition, some other lower division science courses, in Chemistry and elsewhere, require more class and laboratory hours than are awarded as units of academic credit. And, as a yet more severe example, but one that affects fewer students, lower division Art Practice courses require 9 hours of studio time for 4 units.

***As one salient finding in this regard, there was no correlation (r= -.00) between students' ratings of whether their high school background prepared them pretty well for coursework at UCB and their report of the number of hours per unit they studied in Winter 1978.

Students' ratings of this item about the adequacy of their high school preparation were correlated at .3617 with their reported GPA at UCB. (This correlation is nearly as high as that between high-school GPA and GPA at UCB, which was .3835.) Interestingly enough, reported high-school GPA and students' ratings of the quality of their high school preparation, while associated at a statistically significant level, were actually quite weakly related (Pearson r= .1877), indicating that they may represent largely separate variables (i.e., with a 3.5% overlap).

[1/1/12-13] UCB Grade Point Average (GPA). As a result of their studying, whether extensively or more muted, and their developed and developing academic and system-coping abilities, the average respondent reported a mean GPA at UCB of 3.04 (weighted). This average undoubtedly includes some upper division course grades (as well as an unknown mix of freshperson and sophomore work, except that most of the respondents have probably taken an appropriate selection of the most basic freshperson course sequences). The 3.04 average GPA is in the general vicinity of the average letter grade awarded for lower division work for the academic year 1976-77, which was 2.90.* There is a chance also that the respondents are slightly more academically successful, in terms of GPA, than are nonrespondents. There were perhaps modest differences between the average UCB GPA in the five Colleges [F-prob.= .0405; N= 344]. The mean GPA reported for College of Chemistry students (2.83) seemed to be the lowest of the five, and Environmental Design the highest (3.11). The other averages were: L & S, 3.05; Engineering, 2.97; and Natural Resources, 2.92.

Although hours studied per unit in one quarter (Winter 1978) is only partially representative of the "average" respondent's academic efforts during his/her 4-plus quarters at Berkeley, it seems disappointing—in terms of what it indicates about the educational process—that hours studied per unit of work in Winter Quarter 1978 had a Pearson correlation of only .1548 with overall GPA at UCB. While this correlation was "significant" at or below a probability of .004 (because of a reasonable-sized sample), it indicates that only 2.4% of the student-to-student variation in GPA can be predicted on the basis of students' reported hours of study per unit in Winter Quarter. The correlation was a little lower when L & S was considered by itself.

Although differences in students' prior development of academic abilities might be expected to play a role in whether they achieve good grades, the above finding suggests that students' amount of study has very little relation to grades awarded. Hence, the general system of testing and grading at UCB may be even more arbitrary, or contingent on extraneous factors (e.g., test-taking and exam-cramming abilities) than has been imagined previously. As has been suggested for other reasons also, an educational system based more heavily on mastery learning, workload standards, or employing reasonable "absolute" standards (such that study time will pay off in academic recognition), seems much to be preferred.

Lack of Correlation with Probability of Dropping Out. Please note that none of the three most traditional measures of student quality—UCB GPA, high school GPA, and students' ratings of the quality of their high school preparation—had a meaningful level of correlation with students' reported probability of dropping out. The capacity of these three variables to predict students' reported probability of dropping out were 0.7% (UCB GPA), 1.7% (high school GPA) and 1.1% (rated quality of high school preparation). In other words, "good students," as measured by traditional academic standards, seem just about as likely as poorer students to give up on Berkeley. Since students seem to be "weeded out" with little discrimination in favor of competence or capability, this again seems to indicate that lower division education at UCB is targeted or channelled toward, or otherwise requires, much too narrow a range of styles of coping behavior (as distinguished from academic abilities!).

[3/1/71] Student Judgments of the Quality of Their Peers. In terms of how the respondents perceived the academic competence of their peers, 59.4% agreed that they "have been impressed by the caliber or motivation of the other students at Berkeley," and 16.9% disagreed. Across the five Colleges, there appear to be borderline differences between the students' evaluations of their peers caliber or motivation [Chi-Square prob.= .2523 or F-prob.= .0501; N= 342]. Chemistry and Engineering students were perhaps more impressed with the caliber or motivation of their colleagues—possibly in accord with their ratings of heavy workloads in these Colleges.

Students' Retention of Material Learned

The University's role in imparting knowledge is often stressed in response to students' periodic complaints about the quality of undergraduate instruction, or about weaknesses in the humanistic and social-responsibility dimensions of education here. But insofar as education at the University is concerned with imparting knowledge (and such an approach runs into the "details" problem discussed earlier), the question of how well students retain what they have (supposedly) learned becomes of considerable importance. For example, if grading based on the comparative performance between students (i.e., grading on the curve, as contrasted with grading based on mastery or workload standards) is to be a meaningful measure, grades awarded should imply a lot about students' capabilities of remembering the material which was tested. But even apart from the meaning of grades, if the goal is to impart knowledge, the matter of retention of material learned is of importance in assessing the value of education at Berkeley.

[3/1/58] As a result of such considerations, we place considerable importance on the item, "I will remember a lot of what I have learned in Berkeley classes for a long time to come." A majority (52.5%) of the lower division respondents agreed with this statement, and 17.7% disagreed. However, most students responded in the middle three categories of the five-point scale ("Strongly Agree" responses logged in at 10.5%, "Strongly Disagree" at only 1.7%). Thus very few students indeed say they get nothing of long term value from their classes, but only one in ten indicated they definitely would remember a lot of what they had learned. Differences between the responses of students in the five different Colleges were possibly of consequence [Chi-Square prob.= .2485 or F-prob.= .0493; N= 343], with Natural Resources students perhaps

*The figure on "quarters completed was calculated by assuming that the students checking "1-3 quarters" at U.C. had completed two quarters of study, that those checking 4-6 quarters had completed five quarters, and so on. Those few students at 10 or more quarters were credited with 11.

being least in agreement (37% agree, 30% disagree). Agreement in the other Colleges ranged from 46-60%, disagreement from 9-18%.

SHORT TABLE: I will remember a lot of what I have learned in UCB classes for a long time to come (N= 343). Strongly Disagree— 1.7%; Disagree— 16.0%; In Between— 29.7%; Agree— 42.0%; Strongly Agree— 10.5%

STUDENT PARTICIPATION IN UNIVERSITY GOVERNANCE

The respondents were very supportive of student participation in the academic decision-making processes at Berkeley. They also perhaps provided an example of the modest level of current participation by the disagreement of a vast majority (79.6%) with the statement, "I know a lot about the decision-making processes, policies, and governance at the University."* Only 5.9% agreed (0.9% Strongly so) that they did know a lot about University governance. There were no differences of consequence between the views of students in the five different Colleges [Chi-Square prob.= .5730 or F-prob.= .8717; N= 343]. [3/1/61]

Trust of Faculty Decision-Making

Under the current circumstances, a plurality of students (43.5%) disagreed with the statement, "I trust the faculty to take student needs and views into account in their academic decision-making." While 25.5% of the respondents agreed that they did trust faculty in this regard, only 2.4% Strongly Agreed. Almost a third (31.1%) marked "In Between." There were no differences in student opinion by College of affiliation [Chi-Square prob.= .3430 or F-prob.= .1694; N= 338]. [3/1/62]

SHORT TABLE: Faculty trusted to take student needs and views into account (N= 338). Strongly Disagree— 13.0%; Disagree— 30.5%; In Between— 31.1%; Agree— 23.1%; Strongly Agree— 2.4%

Support for Student Participation

The extent of the respondents' support for a strong, blanket statement in favor of student participation in University decision-making was overwhelming—80.6% (weighted). Only 8.1% disagreed with the proposition that "Students should have the right to participate in all University decision-making that affects their or future students' education or welfare." Students in Engineering were least strongly in support (62% agree, 20% disagree), followed by students in Chemistry (69% agree, 13% disagree). [Chi-Square prob.= .0454 or F-prob.= .0045; N= 345.] [3/1/67]

Students Should Participate in All Decision-Making That Affects Them

Item: "Students should have the right to participate in all University decision-making that affects their or future students' education or welfare." [F-prob.= .0045.]

College	Mean	±.95	N	Percentage Responses: All disagree	All agree
Chemistry	3.89	0.31	45	13%	69%
Engineering	3.56	0.29	50	20	62
Envir. Design	4.08	0.28	40	5	83
Nat. Resources	4.07	0.33	43	9	79
L & S	4.15	0.14	167	7	83
TOTALS	4.01	0.10	345		
Weighted Mean:	4.08				

	Unweighted Totals	Weighted Totals
Str. Disag.	2.0%	1.9%
Disagree	7.5	6.3
In Between	12.8	11.3
Agree	42.6	43.0
Str. Agree	35.1	37.6
	100.0	100.1

A similar level of support, a vast majority (78.4%), was evident on the item, "To help ensure that teaching ability is given enough weight in faculty advancement, students should be represented on the faculty Senate committee that evaluates faculty members for promotion and tenure." Disagreement again was low (6.5%), and in this instance there were no differences of consequence between the responses of students in the five Colleges [Chi-Square prob.= .1423 or F-prob.= .9458; N= 325]. Support for student representation on this faculty Senate committee (the Committee on Budget and Interdepartmental Relations) was strong despite the acknowledgement by 88.6% of the respondents that teaching evaluation forms were distributed last quarter in each of the classes in which they were enrolled. Students were also supportive of an effective role for Primer in making faculty evaluations available to students (see page 14). [3/1/66] [3/1/63]

Student Views on Specific Educational and University Policy Issues

One way to involve students in University decision-making, and to provide information for ASUC representatives of the student body as well as for the U.C. Administration and faculty, is to poll students directly about important issues. In an experimental component of the LDPEQ, we did just that. Apart from the items on student participation and Primer, which were included in other portions of the questionnaire, the students' responses to several statements about currently-important policy questions are presented in tabular form on the following page.

*The Task Force on the Evaluation of Student Participation in the Governance of the University of California (a U.C.-Systemwide committee) identified U.C. Berkeley as the campus with the lowest level (of all nine U.C. campuses) of student participation in University and faculty committees, and with the worst faculty attitudes toward student participation.

In considering the results tabled below, one must remember that lower division students represent only a portion of the entire student body (e.g., about 31% in Fall 1976). As something of a guidepost, it is probably the case generally that upper division students would, on the average, respond in a somewhat more liberal direction to the same questions. Speculation about graduate student views is more difficult, but one guess is that they would be more conservative on some issues, and more liberal on many.

Lower Division Student Views on Educational and University Policy

	Weighted Percentages								
Item*	Str Disag	Disag	In Btwn	Agree	Str Agree	N	W't'd Mean	Actual Mean	Between Colleges F-prob.
Faculty should include a statement of possible social impacts in their research write-ups.	3.5%	8.6%	17.4%	43.3%	27.2%	318**	3.82	3.85	.0216***
It is probably good to hire a few permanent Lecturers to improve teaching in some of the largest, basic, required courses.	0.6	3.1	12.2	47.8	36.4	335	4.16	4.19	.5686
Faculty should reveal consulting activities related to the class being taught.	7.4	27.6	27.8	27.5	9.6	319**	3.04	2.99	.0201***
No already-enrolled UCB student with passing grades should be barred from the major of his/her choice.	1.8	10.7	16.5	33.8	37.2	332	3.94	3.83	.0691***
The University should try vigorously to enroll the proportion of Blacks, Chicanos and Native Americans who graduate from California high schools.	19.1	19.9	21.5	22.6	16.9	328	2.98	2.91	.7050
Faculty members should avoid all secret ties with and information from intelligence agencies such as the CIA.	5.4	13.9	19.9	23.5	37.2	302**	3.73	3.65	.0051***
The University should sell its stock in companies that invest in South Africa.	7.2	14.5	23.3	21.3	33.6	285**	3.60	3.57	.0589***
The University really shouldn't be involved in managing labs that make nuclear weapons or in research that uses secret information or produces secret reports.	9.1	24.6	23.1	20.0	23.1	312**	3.23	3.14	.0013***
Priority for Congressional allocations of additional financial aid monies should go to students with the greater needs rather than to a small tax write-off for all students or their parents.	8.3	10.4	18.5	37.4	25.3	327	3.61	3.57	.0148***

*See Appendix A, LDPEQ page 6, for full wording. [6/3/30- 6/3/38]
**More than 10% of the respondents marked "No Information or Not Applicable" or left the item blank. As usual, these responses are not included in the percentage, mean, or F-probability calculations.
***See text for mention of the College by College differences in students' responses to these items.

Details on Student Views on Educational and University Policy

Faculty-related Social Responsibilities. A very large majority (70.5%, weighted) of the lower division respondents support the concept that faculty members' write-ups of their research should contain a statement of possible social impacts where research may have an important effect on society. Only 12.1% disagreed. Students in Natural Resources were the most likely to agree (87%) and students in Chemistry were the least likely to agree (57%). In no College did disagreement exceed 18%. The question of the social impact of University research has been raised at the Regents' level, principally in connection with alleged overemphasis by U.C. on projects of benefit to large-scale agriculture, and by a recent State auditor's judgment that the University is performing research of value to corporate entities, or their immediate foundational affiliates, without in some instances charging full "overhead" costs.

A large majority (60.7%, weighted) of the respondents were also opposed to secret ties with and information from intelligence agencies such as the CIA on the part of U.C. faculty. Just under a fifth (19.3%) disagreed (i.e., accepted secret ties and information-sharing). Responses in L & S, Natural Resources, and Environmental Design were fairly typical of the weighted response as a whole (63-71% agree), but only a plurality of students in Chemistry (47% agree, 29% disagree) and in Engineering (38% agree, 36% disagree) were supportive of confining intelligence agencies ties to those which are nonsecretive. The Statewide Academic Senate is committed to an evaluation of this concern, which arose principally from the revelations of secret ties between academics and the CIA, and from extensive, indirect CIA funding of research (i.e., unknown to the investigator).

On the matter of whether faculty should reveal their course-related consulting activity to students enrolled in the class, to enable the students to judge for themselves whether the professor seems unduly influenced by such activities, the lower division respondents were very nearly evenly divided. Students in Natural Resources were most in agreement (45%, versus 25% disagreement), and agreement was lowest (23%,

versus 45% disagreement) in Chemistry, and in Engineering (23%, versus 44% disagreement). Agreement had a narrow plurality in Environmental Design (35%, versus 29% disagreement) and in L & S (39%, versus 35% disagreement). On a ballot concerning six consulting-related propositions (but excluding the one asked here), the Berkeley faculty last year voted against all but internal disclosure (to department chairpersons) of faculty consulting activities. University policies regarding consulting, whether public or private, are in a state of transition, but it is not yet clear whether records that are in any way accessible to students (or the public) will be kept. Professor Charles Schwartz (Physics, UCB) has played a major role in seeking a policy to disclose faculty consulting activities and in documenting its extent and possible influences on the academic and public environments.

Teaching, Access to Majors, Student Affirmative Action. The students' responses to the question about permanent Lecturers, who are promoted almost entirely on the basis of their teaching ability, is discussed on page 20. Notwithstanding various weaknesses in undergraduate and lower division education, the Berkeley campus administration (and many faculty) have shown considerable resistance to the idea of hiring a few, security-of-employment lecturers to teach in the largest, basic, required courses here, or for instruction in interdisciplinary programs which are permanent but purely undergraduate in nature (e.g., field majors in the social and biological sciences, and in the humanities). A subcommittee of the Statewide Academic Senate's Committee on Educational Policy is also studying this question, with emphasis on interdisciplinary programs. Their study was launched principally due to the complaints and work of students in the Division of Interdisciplinary and General Studies here, who are faced with the phase-out of award-winning Lecturer Paul Von Blum.

A large majority of the respondents in all five Colleges agreed that students should have access to the major of their choice (assuming they have passing grades). This view is contrary to University practices in several departments, including Economics and Business Administration. The University has chosen not to respond fully to shifts in patterns of undergraduate demand for particular majors, even with additions of temporary faculty. Grade-point-average (and other criteria) have been used to select which students will and won't be able to enroll in certain majors. Levels of student agreement with the statement contrary to this policy ranged from 59% to 73%; disagreement (acceptance of restricted majors) ranged from 10% to 25%. Students in L & S were perhaps the strongest in their views (73% agree, 10% disagree).

There were no differences between the responses of students in the five Colleges to the proposition indicating that the University should try vigorously to enroll a percentage of Black, Chicano and Native American students that is reflective of their proportions in the high school graduating class. In no College was there a majority, pro or con. The University's policy is generally supportive of affirmative action, but the suggested target figure (in the questionnaire item) is pursued with much less than vigor in some quarters, and the faculty have a general dislike of offering "remedial" courses. Compared to their proportion in the State's high school graduating classes (but not to their proportion of students eligible solely by virtue of their GPA, SAT scores, and completion of the "a to f" high school course requirements), Chicano and Black students are greatly underrepresented at UCB. Recent action by the Statewide Academic Senate, which was narrowly upheld by the Board of Regents, resulted in an increased weighting of SAT scores in the undergraduate admissions formula, and a disproportionate impact on the eligibility of prospective ethnic minority students.

University-Society Issues. With the exception perhaps of the respondents from the College of Chemistry, a majority of the students in the Colleges agreed that the University should sell its stock in companies that invest in South Africa. Apart from Chemistry students, agreement ranged from 51% to 67%, disagreement from 18-21%. Agreement was perhaps strongest in Environmental Design and Natural Resources. In Chemistry, 36% agreed (24% Strongly so) and 42% disagreed (such that the mean response was 3.00). On the question of the University's holdings in companies with investments in South Africa, the Regents, without a quorum sufficient for action, held a hearing here last Spring, partly due to the urging of the Students for Economic and Racial Justice, to similar groups on other campuses, and prior protests about the situation. The Regents recently reconfirmed a policy of Regental voting on management/shareholder resolutions that, de facto, always results in the support of corporate management's position.

There was a rather strong split, by College, in the students' views as to the appropriateness of U.C. continuing to manage laboratories that make nuclear weapons or use secret information and produce secret research reports. Agreement prevailed in Natural Resources (54% to 32%), Environmental Design (52% to 33%) and L & S (45% to 31%), but not in Engineering (26% to 55%) nor Chemistry (26% to 50%). Last year, the nuclear weapons labs question was the subject of an extensive Universitywide task force report, which did not call for significant change. The University's role in managing the labs has been the focus of off-and-on protest for some time, and the Nuclear Weapons Lab Conversion Project helped to spur the formation of the aforementioned task force.

A National Issue. With the exception of respondents in the College of Chemistry, a large majority (63-69%) of the students in each College agreed, and modest proportions disagreed (11-26%) that priority for additional National funding for financial aid should be given to students with greater needs rather than to a small tax write-off for all students or their parents. In Chemistry, 38% agreed (22% Strongly so) and 42% disagreed (such that the mean response was 3.02). The U.S. Congress is seriously considering enactment of tax credits, and of extending them into the elementary-secondary levels. The alternative, favored by the Carter Administration, is to extend existing programs, increasing awards at the lowest levels and extending eligibility further up into the ranks of middle-income families, such that student aid money would be most available where it is most needed.

OVERALL SATISFACTION AND THE CONTRIBUTIONS OF UCB

In this section, several of the items that serve to evoke students' evaluations of the broadest aspects of their University life are reported. Nevertheless, as befits the specific content of some of these broader questionnaire items, preceeding sections have included reports of general items concerning faculty teaching (page 15), coursework (page 23), and student retention of what was learned in classes (page 28).

Some of the results presented in this section at first glance may seem to present a relatively rosier picture than would a more in-depth examination.* Put another way, people may think, "three-fifths are satisfied--that's pretty good"; but as an "overall" evaluative statement, maybe it's important that at any one time one student in six is generally dissatisfied, particularly if other items provide results indicative of significant problems.

To take but one example, the most general item on teaching ("Teaching at Berkeley is challenging and of high quality") elicited a fairly positive response--54.2% agree (only 12.2% Strongly so) and 15.2% disagree (only 2.7% Strongly so). But a number of more specific teaching-related items drew mixed or even fairly negative responses (e.g., concerning the adequacy of feedback to students, clarity of class expectations, faculty attitudes toward students, extent of faculty contact, the departmental coursework evaluations, etc.). The response to the idea to hire permanent teaching faculty (Lecturers) promoted solely for their teaching ability is also suggestive of existing weaknesses underlying the "fairly positive" response to the statement that teaching at Berkeley is challenging and of high quality.

Overall Satisfaction

Students were asked their "overall satisfaction" in two ways--one focused on their total experience while at college, the other solely on the University-related, academic aspects of the educational process. With respect to the second question, a large majority (60.4%, weighted) of the respondents checked "Moderately High," "High," or "Extremely High" (on a 7-point scale) regarding "overall level of satisfaction thus far with your education at Berkeley (faculty, teaching, advising, courses/curriculum, governance, etc.)." [4/2/24] Just over one-sixth (17.7%) marked one of the three, corresponding ratings indicative of low satisfaction, and a little over a fifth (21.8%) marked "In Between" (the scale midpoint). The modal response was #5, "Moderately High" (30.8%), and there weren't many raters who indicated that their satisfaction was "Extremely High" (5.5%), or "Extremely Low" (1.0%). The weighted mean response was 4.69 (i.e., a little closer to "Moderately High" than to "In Between"). Differences between the responses by students in the five different Colleges were of borderline consequence [Chi-Square prob.= .0830 or F-prob.= .0773; N= 343]. Students were perhaps slightly more satisfied in Environmental Design (73% high satisfaction; mean 5.07) and Chemistry (71% high satisfaction; mean 5.02) and slightly less satisfied in Natural Resources (48% high satisfaction; mean 4.41). Satisfaction in Engineering was at 65% (mean 4.69), and in L & S was at 60% (mean 4.68).

SHORT TABLE: "Please rate your overall level of satisfaction thus far with your education at Berkeley (faculty, teaching, advising, courses/curriculum, governance, etc.)" (N= 343).

Extremely Low--	1.5%;	Low--	5.0%;	Moderately Low-- 8.5%; In Between= 23.0%
Extremely High--	4.4%;	High--	25.9%;	Moderately High-- 31.8%;

[4/2/16] Students seemed to give a slightly more positive rating to the question, "All in all, how satisfied have you been to date with your total experience while at college?" But differences in the wording of the response categories for this second, 7-point rating scale preclude definitive comparison with students' ratings of satisfaction with the formal aspects of the instructional process.**

With respect to their total experience while at college, 68.5% of the respondents marked "Somewhat Satisfied," "Satisfied," or "Very Satisfied"; 15.9% marked "Somewhat Dissatisfied," "Dissatisfied," or "Very Dissatisfied." Slightly under one-sixth (15.6%) chose the response "Neutral or Mixed Feelings." The modal response was "Satisfied" (33.8%)--the sixth rather than fifth point on the scale--and the mean response was 5.05. There were no differences of consequence between the responses of students in the five different Colleges [Chi-Square prob.= .2711 or F-prob.= .6048; N= 346]. A short table is presented atop the following page.

*With reference to student ratings of "overall satisfaction," my guess is that one must consider the results in comparison to the pattern of responses that would be obtained when a Gallup-type poll asks a similar question of the American people. As I recall, the Gallup results are quite similar, and often higher, but there may be more fluctuation in them from year to year. And if my memory serves me well, the Spring 1970 survey of college seniors (i.e., persons nearing/at completion after four years) at Berkeley conducted by the Center for Research and Development in Higher Education obtained a slightly more positive response concerning overall satisfaction than we now find in the lower division sample--even though the Spring of 1970 was a time of considerable social and intellectual ferment (e.g., the Cambodian Invasion and "Reconstitution" at the University). As someone once suggested to me, perhaps the fairly stable and fairly high satisfaction rates among college students can be attributed in part to the positive outlook of young adults, who are trying to make the most of whatever they encounter. Then again, the respondents may exclude some of the most dissatisfied students (e.g., students who left after Fall Quarter, the 2.3% who moved without leaving an address, those in the process of giving up on Berkeley, etc.).

**I believe this item was borrowed from an Office of Student Affairs Research questionnaire (Austin Frank, Director), opening up the possibility for comparisons with other samples. The item concerning satisfaction with the formal aspects of the educational process is a repeat from the upper division major surveys in Spring 1977 (as are many other items, typically with minor adaptations).

SHORT TABLE: "All in all, how satisfied have you been to date with your total experience while at college?" (N= 346).

Very Dissatis.— 2.3%;	Dissatis.— 4.9%;	Somewhat Dissatis.— 8.7%;	Neutral or Mixed— 15.6%
Very Satisfied— 14.2%;	Satisfied— 33.8%;	Somewhat Satisfied— 20.5%;	

UCB's Contribution to Educational Goals

In seeking to ascertain how well Berkeley's educational process serves its student clientele/consumers,* six items that are actually rather traditional in content were developed to encompass most of the principal reasons advanced for attending a college or university. Students were asked to indicate the importance to them of each of these goals, and to rate the extent to which their education at Berkeley had met these aims ("Berkeley's Contribution"). The College by College ratings of the "Importance to you" of these goals is presented on page 8. The section below focuses on the ratings of Berkeley's Contribution to meeting the goals, and on the differential ("Deficit") between students' ratings of the Importance of the goals and their ratings of Berkeley's Contribution.

For the entire sample, the diagram on the following page depicts the mean "Importance to you" rating and the mean rating of "Berkeley's Contribution." The table following it presents the results on a College by College basis. (There were statistically significant differences in Contribution ratings for three of the six goals, and a borderline situation for a fourth.)

Overview. Berkeley's Contributions to the education of lower division students were rated nearly equally for three of the goals. For these three goals, Berkeley's Contribution was viewed, on the average, as a little less than half of the way from "In Between" to "High" (the third and fourth point on a five-point scale from Very Low to Very High). The three goals and the percentage of respondents who rated Berkeley's Contribution as high (high= "High" plus "Very High") are: Training in critical thinking and [4/1/79
analysis (51.0% high, weighted); Gaining a thorough understanding of a subject matter (48.2% high, [4/2/8]
unweighted); and Preparation for graduate or professional school (49.0% high, unweighted). The correspond- [4/1/75
ing low ratings (low= "Low" plus "Very Low") are 12.8% (weighted), 12.5% (unweighted) and 20.0% (unweighted), respectively.

Not far behind as far as Berkeley's Contribution to it went, was the goal, "Preparation for a career," [4/1/73
with high ratings at 41.5% (weighted) and low ratings at 20.0%. With all the institutional complaining about how students put so much emphasis on career training nowadays, one would have expected students to be more dissatisfied than not. This dissatisfaction does occur with respect to career-related information (see page 15), and is far from absent here, but career training cannot be said to be the major problem at Berkeley (judged either by level of Berkeley's Contribution or by deficit with respect to students' ratings of the Importance of the goal).

Perhaps in accord with Berkeley's general emphasis on faculty research, on quantified knowledge rather than the analysis and synthesis of ideas, together with the impersonality of the environment, Berkeley's Contribution to "a broad, general, humanistic or person-centered education" was rated as somewhat weaker: [4/1/77
30.1% high; 32.8% low (unweighted). Within L & S, ratings of Berkeley's Contribution to a broadly humanistic education fell very near the overall average (31.6% high, 30.4% low). This result in L & S seems particularly disappointing, because L & S presumably takes somewhat seriously its charge to provide an adequate general education. (Notes: from the responses reported on page , it seems rather unlikely that the changes in breadth requirements in L & S will have a significant positive effect on this problem area; indeed, the net effects may well be negative. The strengthening of the L & S Advising unit, however, might have some potential to help.)

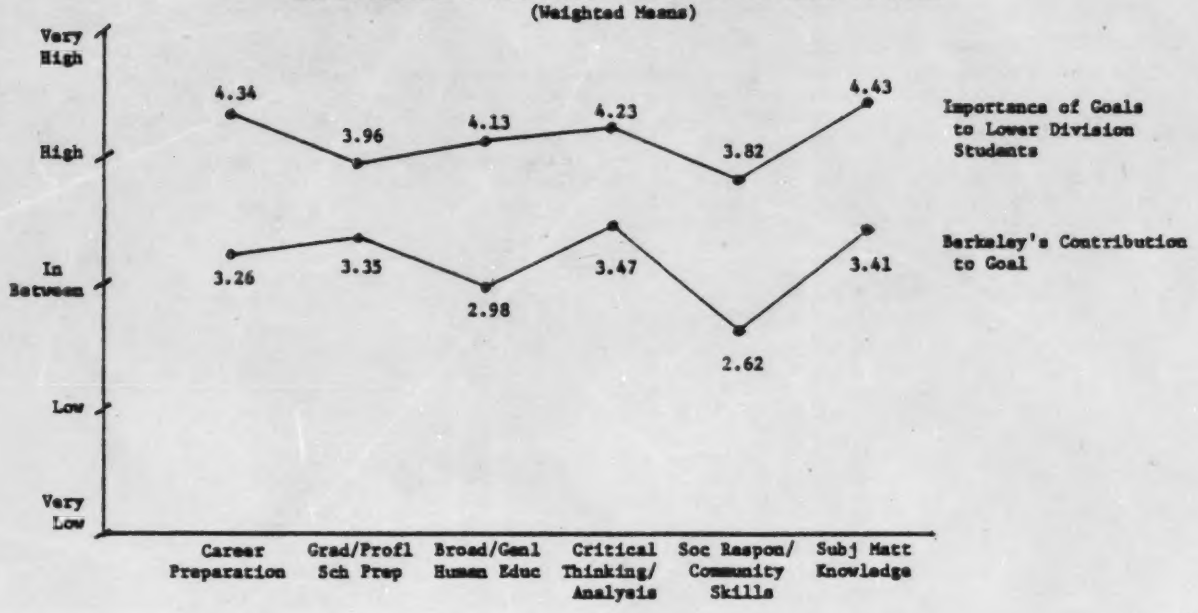
Finally, with the UCB Administration's distaste for turmoil on campus (even at the cost of suppressing the intellectual and social ferment necessary to a great university) and, among some/many professors, the commitment only to their research and evolving esteem in the eyes of their one community of disciplinarians, it should come as no surprise that students rated as lower yet Berkeley's Contribution to the goal of "Social responsibility or developing skills useful in the community." Overall, 19.5% (weighted) of the [4/2/6]
respondents rated the University's Contribution to this educational goal as high, and 47.1% rated it as low. But if the (two sets of) items on social issues in teaching and coursework (pages 23-24) and on educational and University policy questions (pages 29-30) provide us with meaningful results, the inattention to social responsibility may be found as much in the University's actions and policies as an organization than in the content absent in the classroom.

Deficits. The difference between students' average ratings of the "Importance to you" of these six goals and their ratings of "Berkeley's Contribution" may in some ways be thought of as relative deficiencies or deficits in the educational process here. In analyzing the results of the survey from this perspective, students seem relatively more satisfied with the training in critical thinking and analysis, and with the preparation for graduate or professional school. The other four deficiencies are about equal in magnitude, with the deficits on the items about social responsibility/developing community skills, and on a broadly humanistic education, perhaps being the greatest.

Among the four less well-fulfilled goals (the students' priorities for institutional change?), it is possible that the items with the higher "Importance to you" ratings (i.e., Preparation for a career, and Gaining a thorough knowledge of a subject matter) would have a higher priority. On the other hand, Berkeley's Contribution is already rated higher in these areas than in the other two, and the deficits are marginally smaller. Moreover, in the case of the item about subject matter understanding, the upper division major coursework taken subsequently by the respondents will presumably make a substantial contribution. Also, if Berkeley's Contribution to a broad, general, humanistic or person-centered education were strengthened, particularly in L & S, it might help more students to realize its value, and hence to reduce

*Actually, students can probably best be seen as "co-producers" of learning and knowledge. People do not usually learn without their own (full) participation.

PROFILE OF IMPORTANCE TO STUDENTS OF SIX EDUCATIONAL GOALS,
AND OF BERKELEY'S CONTRIBUTION TOWARD MEETING THESE SIX GOALS
(Weighted Means)



BERKELEY'S CONTRIBUTION TO SIX EDUCATIONAL GOALS,
AND DIFFERENCES BETWEEN RATINGS OF BERKELEY'S CONTRIBUTION AND THE IMPORTANCE OF THE GOALS TO STUDENTS,
BY COLLEGE*

		Career Prep		Grad/Profl Sch Prep		Broad/Genl Humen Ed		Crit/Analyt Thinking		Soc Respon/ Commu Skills		Subj Matt Knowledge		
College		Mean	∓.95	Mean	Std. Dev.	Mean	∓.95	Mean	∓.95	Mean	∓.95	Mean	Std. Dev.	Six-item Avg. N
Chem.	Contrib.	3.88	0.29	3.32	1.14	2.84	0.33	3.80	0.30	2.74	0.34	3.50	0.94	42.5
	Deficit	-0.71		-0.08		-0.88		-0.40		-1.14		-1.00		
Enging	Contrib.	3.75	0.25	3.44	0.89	2.59	0.28	3.66	0.25	2.59	0.34	3.42	0.98	49.7
	Deficit	-0.89		-0.41		-0.98		-0.54		-0.98		-0.88		
Env. Des.	Contrib.	3.43	0.30	3.44	0.84	3.33	0.33	3.58	0.30	3.16	0.29	3.48	0.72	38.3
	Deficit	-0.77		-0.63		-0.75		-0.77		-0.68		-0.73		
Nat. Res.	Contrib.	3.45	0.32	3.32	1.08	2.86	0.37	3.31	0.33	2.41	0.38	3.40	0.95	40.8
	Deficit	-1.06		-0.51		-1.21		-0.74		-1.52		-1.08		
L & S	Contrib.	3.17	0.16	3.34	1.07	3.03	0.18	3.44	0.15	2.61	0.17	3.40	0.88	153.0
	Deficit	-1.12		-0.67		-1.18		-0.80		-1.23		-1.04		
F-prob., Contrib. rating:		.0000		.9509		.0242		.0961		.0279		.9649		
Avg. Deficit		-0.98		-0.53		-1.06		-0.69		-1.16		-0.98		
Wtd Avg. Deficit		-1.07		-0.62		-1.14		-0.76		-1.20		-1.02		

*The original item wordings and structure can be found in Appendix A (page 4 of questionnaire). The scale employed in calculating the means is: 1= Very Low; 2= Low; 3= In Between; 4= High; 5= Very High. The "Deficit" figures represent the mean rating of Berkeley's Contribution to the particular goal, minus the mean rating of the Importance to You ratings of the goal by students (see Section on "Student Goals"). Note that standard deviations rather than the 95% confidence interval have been given where there were no differences between the responses of students in the five Colleges.

their demand for highly specific, career-related training. Indeed, across the entire undergraduate student body, previous research, both at Berkeley and elsewhere, shows that some reduction in the importance of the goal of preparation for a career typically occurs among students during the college years.*

The Primary Influences in the Lower Division Years

In designing the Lower Division Program Evaluation Questionnaire, we took special pains to develop an item that would permit some sense of comparison of the value of the many influences, including the academic, which impinge on students during their college years. As a result, a question was developed which listed seven possible, largely independent, influences on students' "overall growth and learning" while they were attending college at UCB. The results are presented in the table below.

Influence of Various Factors on Students' Overall Growth and Learning

Factor (Item*)	Percent (Weighted) Rating Item As: Of Very Lit Influence	Somewhat Influential	Moderately Influential	Highly Influential	Actual Mean	N	Between Colleges F-prob.
Instructional process	2.5%	18.1%	46.2%	33.2%	3.13	344	.7767
Student's own intellectual interests	10.8	27.5	34.3	27.5	2.77	344	.8301
Broader University and community environment	25.5	31.4	27.0	16.1	2.35	343	.0061**
State-national-international and broader human situation	28.5	33.0	28.1	10.4	2.16	344	.3122
Interaction with peers	6.0	17.4	27.8	48.9	3.20	344	.0540***
Students' own efforts at self-discovery, self-development	11.0	16.5	36.8	35.6	2.98	342	.8323
Other commitments, involvements (leadership roles, work, family, etc.)	13.6	25.4	33.7	27.4	2.76	340	.9320

*For full item wordings, see Appendix A, page 4 of questionnaire.
**By College, the means and 95% confidence intervals are: Chemistry 1.91 (±0.33), Engineering 2.29 (±0.29), L & S 2.34 (±0.16), Natural Resources 2.59 (±0.33), and Environmental Design 2.68 (±0.35).
***By College, the means and 95% confidence intervals are: Engineering 3.02 (±0.29), Chemistry 3.02 (±0.28), L & S 3.20 (±0.14), Environmental Design 3.30 (±0.32), and Natural Resources 3.52 (±0.21).

Discussion of Influences

Among current lower division students at Berkeley, the instructional process, including "classroom lectures, labs, class assignments (readings, homework, etc.), studying for exams, contact of all kinds with faculty, etc." ranks second only to "interaction with peers (other students, roommates, friends, lovers, etc.)" as an influence on students' overall growth and learning. About one-third of the respondents (34.6%, unweighted) rated the instructional process as "Highly Influential," and the modal rating was "Moderately Influential" (46.2%, weighted or unweighted). Whatever the faults, failures and improvements needed in the instructional process, these ratings seem indicative of a respectable contribution to students through that process. [4/2/9] [4/2/13]

Peer influences, as has been found in most previous research on college students, are ranked first in this survey, with about half of the respondents (50.0%, unweighted) indicating that peers were "Highly Influential" on their overall growth and learning. Another 26.5% rated interaction with peers as "Moderately Influential."

Differences between the current generation of college students and those of the mid-1960s to early 1970s are perhaps suggested by the relatively low ratings of influentiality given to the item on the State/National/International and broader human situation (9.9% "Highly Influential," unweighted), and to the item on the broader University and community environment (16.9% "Highly Influential," unweighted). The "Moderately Influential" ratings for these two items were 25.9% and 27.7%, respectively. Despite this modest level of impact, it is likely that these influences are of somewhat less importance to lower division than to upper division students, and of somewhat more importance in years in which local or national elections occur. [4/2/12] [4/2/11]

But in the abeyance of these broader influential forces and the emphasis, especially at the outset of the "average" student's college career, on learning a subject matter and preparing for a career, it seems that it would benefit education here if faculty and the Administration would re-emphasize (the formerly-held) commitment to address these broader questions. The two largest "deficits" in the instructional process noted above, viz., as regards the provision of "a broad, general, humanistic or person-centered education" and "social responsibility or developing skills useful in the community," also suggest the need for the University to reassume this role.

*Underlying the typical shift of emphasis are several important reasons related to human development and the actual preparation needed for careers. The shift is appropriate because of factors such as the broadening of student interests and horizons; the value of maximizing the congruence between career choice and intrinsic motivations of the individual; the inutility of most of the details (at one time) learned in subsequent application; the rate of forgetting of once-learned, but unused knowledge; and the typically frequent changes in jobs held over a lifetime in the U.S.A.

The fairly high response to the item concerning the influentiality of students' other commitments and involvements, which are presumably mostly positive in nature (apart perhaps from some bogged-down family situations, whose principal contribution to overall growth and learning may be very mixed), suggests the importance of maximizing the number of responsible, real-life opportunities available for students to extend their education beyond the classroom. (Included among such opportunities could be many more openings for students to participate in University governance, particularly in the departments and the Academic Senate.) Overall, 28.5% (unweighted) of the respondents rated their other commitments and involvements as "Highly Influential," and 32.9% rated them as "Moderately Influential." [4/2/13]

Students' own intellectual interests/pursuits, which edged out the instructional process in importance in the 1970 sample of Berkeley seniors (see footnote 1, page 32), are of considerable, but relatively less influence among current lower division students. In terms of its contribution to students' overall growth and learning, their own intellectual interests/pursuits were "Highly Influential" to 27.0% (unweighted) and "Moderately Influential" to 34.3%. [4/2/10]

Another factor of considerable influence on students' overall growth and learning (which was also rated above the instructional process in influence among the 1970 seniors) is the students' own special efforts at self-discovery and self-development (i.e., efforts beyond those normally occurring in interaction with peers). In this case, responses of "Highly Influential" (at 38.0%, unweighted) were equal to those for the instructional process, but the "Moderately Influential" ratings (at 33.3%) were a little lower, comparatively. [4/2/14]

Self- Awareness, Understanding, Knowledge

The last two paragraphs (above) discussed influences that are particularly important not only for the contribution they make to students' overall growth and learning, but also because they may (and should) be fostered by the instructional process. Of possibly major importance, then, is the extent of faculty and coursework's contributions to self- awareness, understanding, and knowledge, and to students' motivation to pursue intellectual interests on their own. The LDPEQ included an item to assess the contributions of the formal aspects of the educational process to each of these goals. The format of these items is described on page 18, and may also be seen in Appendix A.*

One of the questionnaire items inquired about the extent of increase due to faculty and coursework in students' "Self-awareness, self-understanding, self-knowledge." Despite differences in the curricula of the five Colleges studied, there were no differences by College in students' ratings of their increase, due to faculty and coursework, in self- awareness, understanding, and knowledge [Chi-Square prob.= .8201 or F-prob.= .5161; N= 337]. Overall, 27.9% report "Much" and 10.1% reported "Very Much" increase in these areas due to faculty and coursework; 17.8% reported "Little" and 13.6% "Very Little." Another three-tenths (30.6%) reported "Some." [4/2/22]

The increases in self-understanding (etc.) reported here may have been developed from several elements in the crucible of the instructional process. Given the lack of differences between Colleges, the reports may in part indicate that many students have come to a better understanding of their subject-matter and academic interests and competencies (e.g., now that they're a little fish in a big pond, a reversal of their high school experience for many). The ratings may also encompass students' understanding of their capabilities to deal with the educational process at UCB (including competition, etc.). The instructional process may also make a more direct contribution via faculty- and coursework-provided information concerning selves in their interpersonal, social, economic, cultural and historical contexts. Thus the University requirement for a course in United States History (or equivalent), along with various opportunities and requirements for breadth in the humanities and social sciences, could also have a significant influence on these results. It is also possible, given the current faddish, social emphasis on self-actualization (often in a narrow sense), that the definitions of "self-awareness, self-understanding, self-knowledge" may have been broadened and loosened so much as to become rather superficial.

However the University's contributions to these self-understanding goals actually break down into their component parts, and however much more the ideal university might contribute to such goals, the results on this item seem vaguely heartening at a large university which seems to view its principal purpose as the professing of knowledge rather than as the purveyor of a more complete academic learning environment.

SHORT TABLE: Extent of increase in students' self-understanding (etc.) due to faculty and coursework (N= 337). Very Little— 13.6%; Little— 17.8%; Some— 30.6%; Much— 27.9%; Very Much— 10.1%

Lifelong Learning?

Some educators and educational researchers believe that the primary goal of a college or university education is to develop students' intrinsic, internal motivation to pursue intellectual inquiry. If the student leaves or graduates from the University with little else acquired but this motivation, the intellectual, critical-analytical, and synthesizing modes of inquiry, and exploration generally, will continue, and the self, as well as humanity and civilization, will proceed on to a better future.

Because of the importance of this goal, the students were asked about the extent to which faculty and coursework increased their "Motivation to pursue your own intellectual interests, apart from University classes, grades, degrees, etc." Overall, 22.4% of the students reported "Much" and 12.1% "Very Much" increase in their (intrinsic) intellectual motivation. Nearly a quarter (23.0%) reported "Little" and 17.4% said "Very Little." A quarter (25.1%) responded "Some." The mean response was 2.89 (1.89 on an A-to-F scale). There were no differences of consequence when students' responses were analyzed by College [Chi-Square prob.= .9242 or F-prob.= .3186; N= 339]. [4/2/21]

*These two items are reported in this section because of their global nature, as contrasted to the more specific content of the other five items which were asked using the same format.

SHORT TABLE: Extent of increase in students' intellectual motivation due to faculty and coursework (N= 339). Very Little— 17.4%; Little— 23.0%; Some— 25.1%; Much— 22.4%; Very Much— 12.1%

Given the central importance of students' developing an interest in pursuing intellectual inquiry on their own, these results seem rather discouraging. That the results are not more positive can perhaps be attributed to the relatively weak, or even oppressive, aspects of lower division education at Berkeley that have been identified in this report, including: a weak general education component; the unsatisfying and unstimulating nature, to many students, of departmental offerings, and a 21.6% "Turn-Off Rate"; the lack of emphasis on social responsibility and the denigration of service to those communities without power or money; the under-recognition of women and minority talents, views and concerns; and the almost-unfaltering adherence to an educational system that gives recognition to students not on the basis of what they have mastered, but on their relative, competitive standings among their peers (which is measured with middling effectiveness at best).

APPENDIX A

THE LOWER DIVISION PROGRAM EVALUATION QUESTIONNAIRE.

Includes:

1. Second cover note (to nonrespondents after first mailing)
2. First cover note (and appendix thereto)
3. The six-page Lower Division Program Evaluation Questionnaire (LDPEQ)

ASSOCIATED STUDENTS
UNIVERSITY OF CALIFORNIA

200 ESHLEMAN HALL Berkeley, California 94720 (415) 642-1431

President
Trudy L. Martin

Executive Vice President
Gregory R. Ryan

Administrative Vice President
Joe Leitmann

Academic Affairs Vice President
Mark Courtney

Student Advocate
Ronna Brown

Dear Friend,

BACK TO YOU with a second PLEAse--to take the time to respond to this University evaluation survey.

Thus far, the response rate is running 39-40%, but that's still not high enough to ensure that YOUR opinion is included or that the full diversity of students is represented.

You will probably even ENJOY and BENEFIT from the experience--this questionnaire offers you a good once-over through your University education.

The Academic Affairs Office has been working for the past few years to have student evaluations become an integral part of the University's assessments of its programs. How can a university evaluate its programs without taking full account of the perspectives of those most affected by the educational process?

A high response rate will help to ensure that the results will be taken seriously by the University. But it can't be done if you don't RESPOND!

So if you're tied up studying, or otherwise, please take a slightly longer study break next time you're ready and fill out the survey. We apologize for the length but feel it is important to do a thorough job.

Once again, . . .

THANK YOU VERY MUCH,

Mark Courtney, Academic Affairs Vice President

Anne Hafner, Academic Review Unit

Andy Hanami, Academic Review Unit

Jeff Koon, Academic Review Unit Coordinator

If you have already returned your questionnaire, please disregard this notice.

P.S.: If you have moved into upper division, we still need your responses. If you have dropped out, we still want your views. NOTE TO ENGINEERS (et al.): On page 5, the general lower division curriculum is included under "Engineering (general)." Only those departments with lower division offerings in the catalog were included in our list (incl. Civil Engg)--but please feel free to name and rate upper division courses in Electrical and Mechanical Engineering (etc.) under "Other."

ASSOCIATED STUDENTS
UNIVERSITY OF CALIFORNIA

Spring 1978
Academic Review Unit (ARU)
ASUC Academic Affairs Office
208 Eshleman Hall
U.C. Berkeley
Berkeley, CA 94720
642-0256

Dear Fellow Student,

The enclosed questionnaire is designed to provide you with a real opportunity to express your views and feelings about your education at Berkeley. While not every item will be applicable to every student's program, we believe that many items will really hit the mark. (Please feel free, however, to use the "no information or not applicable" response as needed.)

The main purposes of this questionnaire evaluation are to identify the strengths and weaknesses in lower division education—to encourage departments and the University to improve offerings and services where they are weak and to give credit where credit is due. To help ensure that the results of your evaluation are taken seriously, a report of the findings will be submitted to all relevant U.C. administrators, to departments, schools and colleges, and to faculty Senate committees. In addition, the results of your evaluation will be made public through the Daily Californian. The final report will be available at no cost to students. Moreover, the results of the evaluation will provide your ASUC Academic Affairs Office with the information necessary to represent you better and to learn which educational problems and issues are of highest priority to you.

YOUR RESPONSES ARE ENTIRELY CONFIDENTIAL.*

Because your name was one of a small number of randomly selected students in your College, your response is very important to the validity of this evaluation. Each of you is, in effect, representing about 15 students. (Most people can answer the questionnaire in about 30 minutes.) We also believe that you will find the survey to be a valuable aid for thinking about your educational experience at Berkeley.

THANK YOU VERY MUCH FOR YOUR HELP!

Sincerely yours,

Jeff Koon

Jeff Koon
Academic Review Unit Coordinator

*Please see Appendix A, on the reverse side of this letter, for more information about confidentiality procedures, why the questions are worded as they are, the Academic Review Unit's work, how to participate more extensively in the evaluation, and so on.

APPENDIX A
(see cover letter on reverse side)

Confidentiality Procedures

The "Identification Number" on the questionnaire is only to check off who has responded when questionnaires are returned, so we can send a second mailing to (or telephone) persons who do not respond fairly soon. Please save us the time and money by responding soon. After responses stop coming in, we will destroy the number code on our name list, thus rendering individual responses absolutely untraceable.

Item Wording

Many of the "items" in this questionnaire could also be called "propositions"—they make a statement, sometimes a strong statement, and ask you to agree or disagree with it. The important thing is not so much how the item is worded, however, but with the strength of agreement or disagreement by the respondents (you). We are fully aware that items which receive a high rate of nonresponse (even 10-20%) often do not allow any firm conclusions to be drawn about the results—so if you object to the question itself or find some item has two meanings, please use the "not applicable or no information" response. If you leave an item blank, we can't be as sure that you looked at it. Also, PLEASE FEEL FREE TO COMMENT IN THE MARGINS ON ANY ITEM, OR ADD AN EXTRA SHEET OF COMMENTS IN THE PREPAID RETURN ENVELOPES. If you do not want your comment quoted (which would only be done anonymously), say so.

In general, we have tried to phrase the questionnaire items with two important goals in mind:

1) If most students agree or disagree with an item, will that statement give us something clear and meaningful to say about University education or policy? We believe that this approach, which resembles a "public opinion poll", is superior to asking you a lot of bland questions. Many of our items are also focused precisely on points of possible change, and on current issues. Our efforts to ask broader educational and University policy questions have been expanded, on a trial basis, in this questionnaire.

2) Will students' responses to an item be likely to differ from one College to another, according to students' prospective major or career choices, by freshman or sophomore status, by sex, and so on? Where differences in responses between different groupings of students do occur, there is often a real possibility for improvement in the educational process. For example, if the College of Engineering does better than L & S at meeting some student needs, but worse at others, there is clearly the potential for both to improve where they are weaker. Our general philosophy is that the University should do as well by everybody as it can, providing high quality educational opportunities for all students, and pursuing research, public service, etc.

The Academic Review Unit

The Academic Review Unit (ARU) is charged with helping to provide student input, particularly at the undergraduate level, concerning the effectiveness of the educational programs at Berkeley. Our view is that no program can be evaluated fairly or completely without the inclusion of students' perspectives in the analysis. (Many University-sponsored program evaluations are conducted without consulting students in any systematic way, and this is the first evaluation of lower division education in years.)

The Academic Review Unit has been operating successfully for 4 years. We are a project of the ASUC Academic Affairs Office (along with Primer and Mini-Grants), run by and for students. We report to the ASUC Academic Affairs Vice President, but our work is also evaluated by a faculty Senate committee (with student members) and some administrators. The funding for the three projects comes through the Vice Chancellor's Office, on recommendation of the faculty Senate committee, from money obtained for the University by the U.C. Student Lobby (which is supported by your ASUC fees, appropriated by the ASUC Senate).

Examples of Previous ARU Work

This year, the ARU is conducting an evaluation of the programs providing basic instruction in English at UCB. A survey evaluation of all sections in Subject A was conducted in the Fall, and a survey of many sections of English 1A was done in the Winter. An in-depth evaluation of the Biology and Zoology majors is also underway. Majors were surveyed in Winter 1978. Biology alumni are also being surveyed. A full report on the pre-health science situation at Berkeley is also nearing completion. We have also prepared an analysis of faculty teaching—which shows that faculty have been spending less time in classroom contact with students, especially undergraduates, and in teaching-related activities as a whole.

Last year, the ARU compiled a report which compared the responses to a program evaluation survey by undergraduate majors in the following Humanities departments: Art, Art History, French, German, History, Music and Spanish. A more detailed report is also available on the undergraduate major in Spanish, and on the graduate and undergraduate programs in Art History. Our survey of undergraduate majors also produced a report on the following Life Science-related departments: Bacteriology, Biochemistry, Biology, Biology of Natural Resources, Botany, Chemistry, Genetics, Medical/Biophysics, Nutrition-Food-Dietetics, Physiology, Psychology and Zoology. Our response rate to the survey of upper division majors was about 60%, which is considered fairly good, but the higher the response rate, the more valid the results.

ARU reports from 1974-76 include: Mathematics, Social Welfare, Political Science, Journalism, and Law and Society.

For Further Information/Participation

If you would like more information on the ARU's work, or about this lower division program evaluation survey, please call Jeff Koon at 642-0256. Please call also if you are interested in working on the report of the results of this evaluation. If necessary, leave a message with your phone number and the best times to call you back (we only work half time).

Academic Review Unit
ASUC Academic Affairs Office
208 Dahlemann Hall
642-0256

Identification Number*

LOWER DIVISION PROGRAM EVALUATION QUESTIONNAIRE

1. In what College are you enrolled? 1[ ] Letters & Science 2[ ] Engineering 3[ ] Natural Resources (5)
   4[ ] Chemistry 5[ ] Environmental Design 6[ ] Other

2. Toward what major are you currently leaning (as a first choice)?_____ (6)

3. How definite is your choice of major? 1[ ] Very tentative 2[ ] Tentative 3[ ] Fairly certain (7)
   4[ ] Definite 0[ ] No major in mind/absolutely don't know

4. Status in school: 1[ ] Freshman 2[ ] Sophomore 3[ ] Junior, Senior 4[ ] Limited status, other (8)

5. School or college of attendance immediately prior to UCB: 1[ ] High school 2[ ] Other U.C. campus (9)
   3[ ] Other university or four-year college 4[ ] Two-year (e.g., community) college 5[ ] Other

6. What was your overall Grade Point Average in high school (grades 9-12)?_____ (10-11)

7. Thus far, what is your Grade Point Average for all courses you have completed at Berkeley?_____ (12-13)

8. What is the highest level of education you expect to attain in the next 10 years? 1[ ] Bachelor's degree (14)
   2[ ] Teaching credential 3[ ] Master's degree
   4[ ] Ph.D. or highest professional degree (e.g., medicine, law, etc.)

9. Toward what career/profession are you currently leaning (as a first choice)?
   _____ 00[ ] Absolutely don't know (15-16)

10. Apart from the reasons why, what would you say is the probability that you will transfer or drop out of U.C. Berkeley without returning to finish your undergraduate education here?
    1[ ] Very high 2[ ] High 3[ ] Moderate 4[ ] Low 5[ ] Very low (17)

11. Sex: 1[ ] Male 2[ ] Female (18)

12. Ethnic identification: 1[ ] White/Caucasian 2[ ] Black/Afro-American 3[ ] Chicano/Mexican-American (19)
    4[ ] Latino 5[ ] Chinese/Chinese-American 6[ ] Japanese/Japanese-American
    7[ ] Filipino/Philippine-American 8[ ] Other Asian, Oceanic, Arab, or Iranian
    9[ ] Native American (nonCaucasian) 0[ ] Decline to state

13. Including the Spring Quarter, how long have you been at UCB? 1[ ] 3 or fewer quarters (20)
    2[ ] 4-6 quarters 3[ ] 7-9 quarters 4[ ] 10 or more quarters

14. About how many Berkeley professors KNOW YOU by name or sight? 0[ ] Zero professors 1[ ] One (21)
    2[ ] Two 3[ ] Three 4[ ] Four 5[ ] Five 6[ ] Six or more professors

15. About how many times did you have a discussion outside of the classroom with any professor, apart from study-list advising, during the Winter Quarter of 1978?
    0[ ] Never 1[ ] Once or twice 2[ ] 3-4 times 3[ ] 5-6 times 4[ ] 7 or more times (22)

16. How many units did you take in Winter 1978? 0[ ] Zero units 1[ ] 1-3.5 2[ ] 6-10.5 (23)
    3[ ] 11-13.5 4[ ] 14-16.5 5[ ] 17-19.5 6[ ] 20-22.5 7[ ] 23 or more units

17. Where do you live while attending Berkeley? 1[ ] U.C. dormitory 2[ ] Fraternity or sorority (24)
    3[ ] Cooperative housing (USCA) 4[ ] At home with parents, or with relatives
    5[ ] Large apartment building 6[ ] House; flat; small apartment building
    7[ ] Rooming house; hotel 8[ ] Other; please specify:_____

18. During Winter 1978, for how many hours per week were you gainfully employed? 0[ ] Zero hours per week (25)
    1[ ] 1-5 2[ ] 6-10 3[ ] 11-15 4[ ] 16-20 5[ ] 21-30 6[ ] 31 or more hours per week

19. During the Winter Quarter of 1978, about how many hours per week did you study outside of class and lab?
    0[ ] Zero hours per week 1[ ] 1-5 2[ ] 6-10 3[ ] 11-15 4[ ] 16-20 5[ ] 21-25 (26)
    6[ ] 26-30 7[ ] 31-35 8[ ] 36-40 9[ ] 41 or more hours per week

PLEASE CONTINUE ON THE REVERSE SIDE

*See cover letter and Appendix A (on the back of cover letter) for more information about the confidential nature of your responses.

FACULTY, TEACHING, ADVISING

In answering the questions on pages 2-4, please evaluate THE WHOLE of your experience at UCB, EXCEPT upper division courses in your intended major. (Later portions of the survey ask for your evaluation of specific departmental offerings.) GENERALLY SPEAKING, . . .

	Strongly Disagree	Disagree	In Between	Agree	Strongly Agree	No Information Or Not Applicable	
1. At my stage in the educational process, I have enough information about career opportunities.	1	2	3	4	5	0	(27)
2. At my stage in the educational process, I have enough information about graduate and professional school programs.	1	2	3	4	5	0	(28)
3. The written information, orientation, and advising provided by my College (faculty, advising center, cluster program, catalogs, secretaries, etc.) makes it easy for me to choose courses, professors, and to understand how best to meet my academic and career needs.	1	2	3	4	5	0	(29)
4. I have felt encouraged or (at least) free to approach faculty members during their office hours.	1	2	3	4	5	0	(30)
5. Even though I might initially have expected more contact with professors, I have been satisfied with the level of interaction I have had with them here.	1	2	3	4	5	0	(31)
6. Faculty members at Berkeley don't really seem interested in or concerned about lower division students.	1	2	3	4	5	0	(32)
7. It would be (is) valuable to have a regular faculty advisor.	1	2	3	4	5	0	(33)
8. Access to faculty advice, or the chance to get to know a faculty advisor, are not really very important to me.	1	2	3	4	5	0	(34)
9. Comments or review provided by faculty, T.A.s and readers on my midterms, papers, problem sets, experiments and class performance are usually thorough enough.	1	2	3	4	5	0	(35)
10. Grading at Berkeley is very rigorous--it is hard to get an "A".	1	2	3	4	5	0	(36)
11. Tests at Berkeley have measured fairly accurately my knowledge of the material in most of my courses.	1	2	3	4	5	0	(37)
12. Tests here usually overemphasize soon-to-be-forgotten details rather than the fundamentals of the subject matter.	1	2	3	4	5	0	(38)
13. Faculty at Berkeley clearly state at the outset what courses will cover and what students need to know or do to get an "A".	1	2	3	4	5	0	(39)
14. I have needed further explanation or extra instruction in some of my courses, but help or a referral did not seem easy to obtain.	1	2	3	4	5	0	(40)
15. Coursework at Berkeley is interesting and challenging.	1	2	3	4	5	0	(41)
16. Faculty at Berkeley show enough concern about social issues in teaching their subjects.	1	2	3	4	5	0	(42)
17. There are enough women faculty at Berkeley.	1	2	3	4	5	0	(43)
18. There are enough ethnic minority faculty at Berkeley.	1	2	3	4	5	0	(44)
19. The teaching at Berkeley is challenging and of high quality.	1	2	3	4	5	0	(45)
20. The large lecture classes that I have taken at Berkeley have generally provided adequate learning opportunities.	1	2	3	4	5	0	(46)

21. Approximately what percentage of T.A.s would you characterize as:

A. Knowledgeable and well-prepared in the material being taught? 1[ ] 0-20% 2[ ] 21-40% (47)
3[ ] 41-60% 4[ ] 61-80% 5[ ] 81-100% 0[ ] Don't know/no information

B. Effective teachers in leading class discussions and/or labs? 1[ ] 0-20% 2[ ] 21-40% (48)
3[ ] 41-60% 4[ ] 61-80% 5[ ] 81-100% 0[ ] Don't know/no information

22. About how many departments or subject matters have you been "turned off to" as a result of your experience in taking classes at Berkeley? 0[ ] Zero 1[ ] One 2[ ] Two 3[ ] Three 4[ ] Four (49)
5[ ] Five 6[ ] Six 7[ ] Seven 8[ ] Eight 9[ ] Nine or more departments/subjects

PLEASE CONTINUE ON TO THE NEXT PAGE

CURRICULUM

GENERALLY SPEAKING, . . .	Strongly Disagree	Disagree	In Between	Agree	Strongly Agree	No Information Or Not Applicable	
1. The courses that I have taken at UCB to meet my College's breadth requirements have been of real benefit to me.	1	2	3	4	5	0	(50)
2. Between my College and prospective major(s), there are too many required courses.	1	2	3	4	5	0	(51)
3. Apart from the field in which I am most likely to major, lower division courses at Berkeley do not relate well to each other; it is hard to get a broad or interdisciplinary perspective.	1	2	3	4	5	0	(52)
4. So far, I have had a sufficient number of small classes (i.e., of 30 or fewer students).	1	2	3	4	5	0	(53)
5. I would be interested in taking one or more small, well-planned, experimental, lower division courses taught in their area of interest by advanced graduate students with prior teaching experience--particularly if the classes met breadth or major requirements. [Describes proposed Associates Teaching Program.]	1	2	3	4	5	0	(54)
6. The methodology, lab, or technical courses I have taken at UCB do not provide the student with enough experience in real problem-solving and analysis.	1	2	3	4	5	0	(55)
7. Students at Berkeley must do a lot of work for the number of units (credit) awarded.	1	2	3	4	5	0	(56)
8. There are enough courses available at Berkeley which explore the contributions of nondominant "schools of thought" (e.g., radical, conservative, futurist, traditionalist, feminist, Third World, etc.).	1	2	3	4	5	0	(57)
9. I will remember a lot of what I have learned in Berkeley classes for a long time to come.	1	2	3	4	5	0	(58)
10. The real value to me of course and lab work is not usually in the details--which I soon forget anyway--but in that I have been thoroughly exposed to the concepts involved.	1	2	3	4	5	0	(59)
11. My high school background prepared me pretty well for my coursework at UCB.	1	2	3	4	5	0	(60)

STUDENTS — VIEWS, SATISFACTION, PARTICIPATION

GENERALLY SPEAKING, . . .							
1. I know a lot about the decision-making processes, policies, and governance at the University.	1	2	3	4	5	0	(61)
2. I trust the faculty to take student needs and views into account in their academic decision-making.	1	2	3	4	5	0	(62)
3. At least one form for student evaluation of teaching was distributed last quarter in each of the courses in which I was enrolled.	1	2	3	4	5	0	(63)
4. I have in some way used Primer in deciding which courses and professors to take.	1	2	3	4	5	0	(64)
5. All faculty should occasionally use the ASUC Primer questionnaire to evaluate their larger courses and those required for the major, so that students will have access to evaluations of faculty teaching.	1	2	3	4	5	0	(65)
6. To help ensure that teaching ability is given enough weight in faculty advancement, students should be represented on the faculty Senate committee that evaluates faculty members for promotion and tenure.	1	2	3	4	5	0	(66)
7. Students should have the right to participate in all University decision-making that affects them or future students' education or welfare.	1	2	3	4	5	0	(67)
8. I study and learn best in an environment with competition at a level such as we have here at Berkeley.	1	2	3	4	5	0	(68)
9. I have trouble coping with the educational system at Berkeley (class size, impersonality, competition, the need to be aggressive, etc.).	1	2	3	4	5	0	(69)
10. Competition for good grades, grading on the curve, cramming for exams, and similar sources of pressure result in an exaggerated workload that impairs other parts of my education and personal growth.	1	2	3	4	5	0	(70)
11. I have been impressed by the caliber or motivation of the other students at Berkeley.	1	2	3	4	5	0	(71)

PLEASE CONTINUE ON THE REVERSE SIDE

STUDENTS — VIEWS, SATISFACTION, PARTICIPATION
(continued)

12. To what extent are the following goals important to you, and to what extent has your education at Berkeley met them?

		Very Low	Low	In Btwn	High	Very High	Don't Know	
A. Preparation for a career:	Importance to you:	1	2	3	4	5	0	(72)
	Berkeley's contribution:	1	2	3	4	5	0	(73)
B. Preparation for graduate or professional school:	Importance to you:	1	2	3	4	5	0	(74)
	Berkeley's contribution:	1	2	3	4	5	0	(75)
C. A broad, general, humanistic or person-centered education:	Importance to you:	1	2	3	4	5	0	(76)
	Berkeley's contribution:	1	2	3	4	5	0	(77)
D. Training in critical thinking and analysis:	Importance to you:	1	2	3	4	5	0	(78)
	Berkeley's contribution:	1	2	3	4	5	0	(79) (80=1) (1-4)
E. Social responsibility or developing skills useful in the community:	Importance to you:	1	2	3	4	5	0	(5)
	Berkeley's contribution:	1	2	3	4	5	0	(6)
F. Gaining a thorough understanding of a subject matter:	Importance to you:	1	2	3	4	5	0	(7)
	Berkeley's contribution:	1	2	3	4	5	0	(8)

13. Please rate the factors below as to their influence on your overall growth and learning while you have been attending college at Berkeley. Using the scale which follows, please put your rating in the space provided:

1= Of Very Little Influence 2= Somewhat Influential 3= Moderately Influential 4= Highly Influential

A. [____] The instructional process: classroom lectures, labs, class assignments (readings, homework, etc.), studying for exams, contact of all kinds with faculty, etc. (9)

B. [____] Your own intellectual interests/pursuits (apart from any class assignments); your own choice of readings. (10)

C. [____] The broader University and community environment: campus and community activities of all kinds, artistic and cultural offerings, public lectures, rallies, local and ASUC politics, etc. (11)

D. [____] Developments and issues in the international, national or state arenas; the ongoing social, political, economic and human situation. (12)

E. [____] Interaction with peers (other students, roommates, friends, lovers, etc.). (13)

F. [____] Your own special efforts at self-discovery or self-development (apart from those normally likely to occur through interaction with peers). (14)

G. [____] Other personal commitments and involvements, for example, family matters, employment, a long-term leadership role or struggle with adversity, etc. (15)

14. All in all, how satisfied have you been to date with your total experience while at college?

1[ ] Very Dissatisfied 2[ ] Dissatisfied 3[ ] Somewhat Dissatisfied (16)

4[ ] Neutral or Mixed Feelings 5[ ] Somewhat Satisfied 6[ ] Satisfied 7[ ] Very Satisfied

15. Thus far, to what extent have faculty and coursework at UCB increased your:

	Extent of Increase Due to Faculty & Coursework: Very Little	Little	Some	Much	Very Much	Don't Know	
A. Ability to analyze ideas and information critically?	1	2	3	4	5	0	(17)
B. Ability to research issues, gather materials, etc.?	1	2	3	4	5	0	(18)
C. Ability to formulate and express ideas in writing?	1	2	3	4	5	0	(19)
D. Ability to formulate and express ideas orally?	1	2	3	4	5	0	(20)
E. Motivation to pursue your own intellectual interests, apart from University classes, grades, degrees, etc.?	1	2	3	4	5	0	(21)
F. Self-awareness, self-understanding, self-knowledge?	1	2	3	4	5	0	(22)
G. Clarity about future academic and career goals?	1	2	3	4	5	0	(23)

16. Please rate your overall level of satisfaction thus far with your education at Berkeley (faculty, teaching, advising, courses/curriculum, governance, etc.): 1[ ] Extremely low 2[ ] Low 3[ ] Moderately low (24)

4[ ] In between 5[ ] Moderately high 6[ ] High 7[ ] Extremely high 0[ ] Don't know

PLEASE CONTINUE ON TO THE NEXT PAGE

DEPARTMENTAL EVALUATIONS

Listed below are most of the departments and programs from which lower division students are likely to have taken courses. For all departments from which you have taken courses at Berkeley, please rate your overall satisfaction with the course(s) you have completed. (When you have taken more than one course from a particular department, simply give one rough, average rating for all courses taken.)

Using the scale which follows, simply insert the number corresponding to your rating in the blank space provided:

1= Very dissatisfied 2= Dissatisfied 3= Somewhat dissatisfied 4 = In between

5= Somewhat satisfied 6= Satisfied 7= Very satisfied

Aerospace Studies	____	(25)	Mathematics	____	(62)
Afro-American Studies	____	(26)	Medical Physics	____	(63)
Anthropology	____	(27)	Military Science	____	(64)
Art, Practice of	____	(28)	Molecular Biology	____	(65)
Art, History of	____	(29)	Music	____	(66)
Asian American Studies	____	(30)	Native American Studies	____	(67)
Astronomy	____	(31)	Naval Science	____	(68)
Biochemistry	____	(32)	Near Eastern Studies	____	(69)
Biology	____	(33)	Nutritional Sciences	____	(70)
Botany	____	(34)	Oriental Languages	____	(71)
Business Administration	____	(35)	Paleontology	____	(72)
Chemistry	____	(36)	Philosophy	____	(73)
Chicano Studies	____	(37)	Physical Education	____	(74)
Civil Engineering	____	(38)	Physics	____	(75)
Classics (incl. Latin, Greek)	____	(39)	Physiology	____	(76)
Comparative Literature	____	(40)	Political Economy of Natural Resources	____	(77)
Computer Science	____	(41)	Political Science	____	(78)
Conservation of Natural Resources	____	(42)	Psychology	____	(79) (80=2)
Conservation and Resource Studies	____	(43)	Public Health	____	(5)
Dramatic Art/Dance	____	(44)	Rhetoric	____	(6)
Economics	____	(45)	Scandanavian	____	(7)
Engineering (general)	____	(46)	Slavic Languages & Literature	____	(8)
English	____	(47)	Sociology	____	(9)
Entomology, Pest Management	____	(48)	South & Southeast Asian Studies	____	(10)
Environmental Design	____	(49)	Spanish and Portuguese	____	(11)
Forestry	____	(50)	Statistics	____	(12)
French	____	(51)	Strawberry Creek College	____	(13)
Genetics	____	(52)	Women's Studies	____	(14)
Geography	____	(53)	Wood Science and Technology	____	(15)
Geology	____	(54)	Zoology	____	(16)
German and Dutch	____	(55)	OTHER?_____	____	(17)
History	____	(56)	OTHER?_____	____	(18)
Interdisciplinary Studies	____	(57)	OTHER?_____	____	(19)
Italian	____	(58)	OTHER?_____	____	(20)
Landscape Architecture	____	(59)			
Libr. & Info. Studies (Bibliog.)	____	(60)			
Linguistics	____	(61)			

UNIVERSITY AND BREADTH REQUIREMENTS

Insofar as you have taken Berkeley courses in the following areas to fulfill University or College breadth requirements, please rate the overall value or benefit to you of the courses you took:	Very Low	Low	In Btwn	High	Very High	Don't Know	
A. Subject A	1	2	3	4	5	0	(21)
A1. An equivalent to Subject A (please specify:_____)	1	2	3	4	5	0	(22)
B. A course for the American Institutions requirement	1	2	3	4	5	0	(23)
C. A course for the American History requirement	1	2	3	4	5	0	(24)
D. The first &/or second course(s) in a foreign language	1	2	3	4	5	0	(25)
E. Courses in reading and composition:							
English 1A-1B	1	2	3	4	5	0	(26)
Rhetoric 1A-1B	1	2	3	4	5	0	(27)
Comparative Literature 1A-1B	1	2	3	4	5	0	(28)
Other (please specify:_____)	1	2	3	4	5	0	(29)

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EDUCATIONAL AND UNIVERSITY POLICY

This is an experimental section. Because we are concerned with real issues and questions, most of these items are phrased from the point of view of persons suggesting alternative University policies. But, as noted in Appendix A, the important thing is whether you agree or disagree.

	Strongly Disagree	Disagree	In Between	Agree	Strongly Agree	No Information Or Not Applicable	
1. Where research may have an important effect on society (e.g., in the mechanization of agriculture), faculty should include a statement of possible social impacts in their write-ups of the results of their studies/work.	1	2	3	4	5	0	(30)
2. It's probably a good idea to hire a few more permanent Lecturers (whose promotion is based almost entirely on their teaching ability) to improve teaching in some of the largest, basic, required courses on the campus.	1	2	3	4	5	0	(31)
3. In order to let students judge the possibilities of bias for themselves, faculty should reveal in classes all of their recent, external, paid or professionally-related consulting activities which are related to the course content or its interpretation.	1	2	3	4	5	0	(32)
4. No student with passing grades who is already enrolled at U.C.B. should be barred from enrolling in the major of his/her choice.	1	2	3	4	5	0	(33)
5. In recognition of the equal intelligence potential of all races, the University should try vigorously to enroll at least that proportion of Blacks, Chicanos, and Native Americans who graduate from California high schools, even if faculty have to develop a few more remedial courses to help some students to catch up.	1	2	3	4	5	0	(34)
6. Faculty members should avoid all secret ties with and information from intelligence agencies such as the CIA.	1	2	3	4	5	0	(35)
7. The University should sell its stock in companies that invest in South Africa--the situation is so bad there that any liberalizing effects of U.S. corporations are more than offset by their economic or monetary support of South Africa or its government and the prolongation of the coming of majority rule.	1	2	3	4	5	0	(36)
8. Despite the possible liberalizing effect of the University's influence on the Defense Department, the University really shouldn't be involved in managing laboratories that make nuclear weapons (and have even lobbied Congress for their development), or in research that uses secret information or produces secret reports of the results.	1	2	3	4	5	0	(37)
9. If the U.S. Congress has more money available for student financial aid, priority for its allocation should go to students with the greater needs rather than to giving all students or their parents a small write-off on their taxes.	1	2	3	4	5	0	(38)

For Students in the College of Letters and Science (Student reactions to recent policy changes in breadth requirements, which will go into effect in Fall 1979.)

1. If you were required to take or pass out of 3 quarters of courses in a foreign language rather than only two (as is currently the case), how would you regard the change in requirements?

   1[ ] Necessary or appropriate (i.e., almost every student needs an acquaintance with a foreign language that is the equivalent of three quarters of language instruction). (39)

   2[ ] Unnecessary or inappropriate (i.e., two quarters of language instruction is enough for students who don't want or need, or won't use, more).

   0[ ] Don't know

2. If you were required to pass a test showing knowledge of the equivalent of 3-1/2 years of high school mathematics (rather than the two years now required at entrance), or complete at least one college-level course in mathematics, statistics, or computer science, how would you regard this change in requirements?

   1[ ] Necessary or appropriate 2[ ] Unnecessary or inappropriate 0[ ] Don't know (40)

3. Currently, students are required to take 8 courses for breadth from an L & S approved list, in one or both of the areas outside the area of their eventual major, and History (classes or the major) may count as either Social Science or Humanities. The third area is Natural Sciences. In the new requirements, 8 courses from an L & S approved list are again required, but each student will have to complete two courses from each of the two areas outside the area of his/her major. This part of the requirement may not be satisfied by courses in computer science, mathematics, or statistics, or by elementary courses in a foreign language. Students may satisfy the remainder of the requirement with any four approved courses outside the area of their major. (Mathematics, statistics and computer science majors must take two courses in each of the three areas, and any two other approved courses in the Humanities or Social Sciences.) If you were required to meet these new breadth requirements, how would you regard the change?

   1[ ] Necessary or appropriate (i.e., almost all students need at least 2 courses in all 3 areas). (41)

   2[ ] Unnecessary or inappropriate (i.e., diverse student needs and goals, greater freedom to choose, and the departmental responsibility to attract students by offering interesting courses are more important).

   0[ ] Don't know

THANKS AGAIN FOR YOUR HELP IN FILLING OUT THIS SURVEY EVALUATION. Please feel free to enclose additional comments.